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ESSAY

Defensive Leveraging in Antitrust

ROBIN COOPER FELDMAN*

INTRODUCTION

For almost a century, antitrust commentators have struggled to explain leverage behavior. Why do firms engage in leverage? What are the potential effects, and how should antitrust law respond? In answering these questions, the prevailing wisdom has swung around the compass without resting in a satisfactory place. The debate in recent decades has focused on one question: Can a monopolist use leverage to gain additional monopoly profit from a second market?

In this piece, I will introduce the theory of defensive leveraging. Defensive leverage theory suggests that leverage theorists have been asking an incomplete question. Leverage behavior should not be analyzed solely as an attempt to reap additional monopoly rent from a second market. Rather, it is frequently an attempt to prevent erosion of the primary monopoly.

Leverage occurs when a monopolist uses power in one market to induce or foreclose sales in another market and thereby monopolize both.¹ For example, consider two markets: a market for cameras and a market for film. The camera market is dominated by one firm; many firms compete in the film market. Suppose the camera monopolist begins selling its cameras only on condition that the buyer also purchase all film from the monopolist.² If the monopolist takes over enough sales in the film market, it will drive other film competitors out. The monopolist then has a film monopoly in addition to a camera monopoly. This is leveraging.

In the first half of the century, courts, commentators, and legislators attacked leverage behavior as dangerous to competition. Their arguments focused on the structural changes in the second market. For example, by forcing other film manufacturers out of the market, the monopolist transforms a competitive market into a monopolized one. Presumably, the monopolist then can raise price, limit supply, and reap monopoly profits from the new market. Thus, according to traditional leverage theory, a monopolist leverages to increase overall returns by adding monopoly returns from a second market to the monopoly returns from the first.

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1. See *infra* notes 20-25 and accompanying text (describing traditional leverage theory).

2. The original monopolized market is the primary market and the newly linked market is the secondary market. In the example above, cameras are the primary market, and film is the secondary market.

The traditional leverage argument contained the following implicit assumption: Two monopolies create more monopoly profits, and therefore more economic damage, than the original monopoly alone. In other words, we know that a monopoly creates dead weight loss. A second monopoly should increase the amount of loss. The assumption seemed so intuitively correct that theorists did not even bother to discuss it. If one monopoly is bad, surely two monopolies are worse.

The Chicago school blasted the assumptions implicit in the traditional analysis of leverage behavior.³ Chicago scholars agreed that leveraging transforms the secondary market from a competitive one into a monopoly. They argued, however, that one must look at pricing in the primary and secondary markets combined to analyze the impact of leveraging.

The Chicago school showed that a monopolist cannot raise prices in the secondary market without losing profits in the primary market. A monopolist can gain all of its monopoly profit from one market or all of its profit from the other, but it cannot increase the total amount of monopoly profit available. Thus, even if a monopolist gains control of a second market through leverage, the monopolist will not be able to reap additional monopoly profit. Leveraging, therefore, does not create more economic damage than the original monopoly alone. In addition, given that leveraging cannot increase the amount of monopoly profit available, the Chicago school concluded that a monopolist usually engages in leveraging for pro-competitive or neutral reasons.⁴

Defensive leveraging theory, as introduced below, offers a different view of leverage behavior. According to the theory, leverage behavior frequently can be understood, not as an attempt to reap additional monopoly profit from a second market, but as an attempt to prevent erosion of the primary monopoly. The camera monopolist, for example, is not trying to gain additional monopoly profits by leveraging into film. It is trying to prevent the natural erosion of its camera monopoly. A complex analysis of the lifecycle of a monopoly shows that defensive leveraging is a natural and effective weapon for preserving the primary monopoly.

Part I of this piece summarizes traditional leverage, Chicago school, and post-Chicago theories. Part II explains defensive leveraging and applies the theory to three market examples: Microsoft's behavior in the market for Internet browsers, competition between physicians and nonphysicians, and Eli Lilly's behavior in the market for cephalosporins. Part III discusses the implications for antitrust law that arise from defensive leveraging theory.

3. See *infra* notes 26-37 and accompanying text (describing Chicago school theories).

4. In the past decade, post-Chicago scholars have chipped away at the Chicago school theories in a variety of areas of antitrust. The post-Chicago school uses game theory to show how small and medium-sized firms in certain circumstances can use market imperfections to harm rivals. Post-Chicago theories, however, require intricate fact finding and do not lead to broad generalizations. As a result, courts have been slow to embrace post-Chicago theories. See *infra* notes 38-45 and accompanying text (describing post-Chicago theories).

An analogy from the predatory pricing arena can be applied to defensive leveraging. Analysts have long debated whether predatory pricing is a white tiger or a unicorn.⁵ A white tiger is an exceedingly rare animal; a unicorn is completely mythical.⁶ Thus, if a behavior is like a white tiger, it is dangerous but rarely seen. If a behavior is like a unicorn, it is completely mythical and cannot exist.

To borrow the analogy, the Chicago school asserts that leverage behavior that damages competition is a unicorn. It is completely mythical because a monopolist cannot reap additional monopoly profit from a second market.

Post-Chicago scholars have identified damaging leverage behavior in a few particularized circumstances. Their analysis suggests that the Chicago school's mythical beast is at least a white tiger. It exists, even if only in rare circumstances.

Defensive leveraging theory shows that the Chicago school is wrong because it fails to consider changes in the structure of the primary market. When these changes are considered, leveraging that damages competition is neither a white tiger nor a unicorn. It is just a plain old work horse in a monopolist's field.

I. THE LEVERAGE DEBATE

Leverage occurs when a monopolist uses power in one market to induce or foreclose sales in another market and thereby monopolize both.⁷ It is most frequently discussed in analyzing tying cases. Tying occurs when a firm agrees to sell a product only on condition that the buyer either purchase a different product as well or agree not to purchase the second product from another supplier.⁸ The classic tying case is *International Salt Co. v. United States*,⁹ in which a firm produced machines that injected salt tablets into canned goods.¹⁰ The firm leased the machines on condition that the lessee use only the firm's salt tablets. The Supreme Court condemned the practice under § 3 of the

5. See Jim Chen, *The Legal Process and Political Economy of Telecommunications Reform*, 97 COLUM. L. REV. 835, 873 n.277 (1997).

6. See *id.*

7. See *Times-Picayune Publ'g Co. v. United States*, 345 U.S. 594, 611 (1953) (describing "monopolistic leverage" as when a seller exploits its dominant position in one market to expand its empire into the next); 9 PHILIP E. AREEDA, *ANTITRUST LAW* ¶ 1700d, at 6-7 (1991) (explaining leverage and describing how a sole manufacturer of can-filling machinery leverages the machine monopoly into a can monopoly as well); Michael D. Whinston, *Tying, Foreclosure, and Exclusion*, 80 AM. ECON. REV. 837 (1990) (describing leverage as when a firm with monopoly power in one market can use leverage provided by this power to foreclose sales in, and thereby monopolize, a second market); see also Lawrence A. Sullivan & Ann I. Jones, *Monopoly Conduct, Especially Leveraging Power from One Product or Market to Another*, in *ANTITRUST, INNOVATION AND COMPETITIVENESS* 165, 171 (1992) (showing how a firm with power in one market exploits that power in another).

8. See *Northern Pac. Ry. Co. v. United States*, 356 U.S. 1, 5-6 (1958). The film and camera hypothetical above is an example of tying.

9. 332 U.S. 392 (1947).

10. See *id.* at 394.

Clayton Act¹¹ and § 1 of the Sherman Act,¹² expressing concern over a creeping tendency toward monopolization in the salt market.¹³

Although leverage theory is best known in the context of tying cases, antitrust authorities also have applied leverage theory in cases involving vertical mergers, exclusive dealing, reciprocal dealing, and monopolization under § 2 of the Sherman Act.¹⁴ For example, *United States v. Griffith*¹⁵ provides a classic case of leverage theory applied in the context of both Sherman Act § 1 (tying) and § 2 (monopolization).¹⁶ Griffith owned a large number of movie theaters. Roughly two-thirds of the theaters were located in towns with no other theaters. One-third were located in towns in which Griffith faced competition from other theaters.¹⁷ Griffith bargained with movie distributors for first-run rights for the chain as a whole. Thus, distributors who wanted to show their pictures in the one-theater towns had to agree to give Griffith first-run rights in the competitive towns as well.¹⁸ The Supreme Court held that Griffith's behavior violated § 2 of the Sherman Act, which forbids monopolization, as well as § 1 of the Sherman Act, which has been interpreted to condemn tying.¹⁹ Thus, the Court applied leverage theory to a monopolization claim as well as a tying claim.

In short, leverage occurs when a monopolist uses power in one market to induce or foreclose sales in another market and thereby monopolize both. It has been identified in cases brought under a variety of antitrust doctrines.

A. THE TRADITIONAL VIEW OF LEVERAGE

Both Congress and the courts have objected to firms using monopoly power in one market to expand into other markets and thereby create additional monopolies. In an early tying case, the Supreme Court commented that "[t]ying arrangements serve hardly any purpose beyond the suppression of competition."²⁰ Congress has expressed similar views. The House Report on § 3 of the Clayton Act condemned tying contracts, calling them "one of the greatest agencies and instrumentalities of monopoly ever devised by the brain of man."²¹

11. 15 U.S.C. § 14 (1994).

12. 15 U.S.C. §§ 1-7 (1994).

13. See *International Salt*, 332 U.S. at 396; 10 PHILIP E. AREEDA ET AL., ANTITRUST LAW ¶ 1733d, at 21 (1996).

14. See Louis Kaplow, *Extension of Monopoly Power through Leverage*, 85 COLUM. L. REV. 515, 515, 517 (1985). A vertical merger is a merger between firms at different levels in the production chain, such as manufactures and distributors. See *id.* at 515 n.1. Reciprocal dealing occurs when one firm agrees to purchase from another firm on condition that the other firm also agree to purchase from the original firm. For example, a steel company could agree to buy trucks from a truck manufacturer on condition that the truck manufacturer agree to buy steel in return. See *id.* Exclusive dealing occurs when a seller agrees to sell only to one customer or a buyer agrees to buy only from one firm.

15. 334 U.S. 100, 109 (1947).

16. See *id.* at 109.

17. See *id.* at 101.

18. See Sullivan & Jones, *supra* note 7, at 172 (describing *Griffith*).

19. See *Griffith*, 334 U.S. at 109.

20. *Standard Oil Co. v. United States*, 337 U.S. 293, 305-06 (1949).

21. *Report of the House Comm. on the Judiciary*, H.R. REP. NO. 63-627, pt. 1, at 13 (1914).

Traditional concern about leveraging focuses on structural changes in the secondary market. For example, consider the camera and film hypothetical described above. Before leveraging, a number of firms compete in the film market. Once the camera monopolist sells its cameras only on condition that the buyer also purchase all film from the monopolist, the monopolist drives other film competitors out of the market.²² The monopolist thereby changes the competitive film market into a monopolized market. The structural change occurs, not because the monopolist offers a better product or a lower price but because of its power in another market.²³

The change in the film market distorts consumers' choices by forcing them to buy products they would not buy in a competitive market.²⁴ In addition, leveraging may make it more difficult for new firms to enter the film market because new entrants must be prepared to enter the camera market as well.²⁵ Most important, according to traditional leverage theorists, once the monopolist eliminates competition in the film market, the monopolist can raise price, limit supply, and reap monopoly profits from the film market. Consumers then face monopoly pricing in both the camera market and the film market.

Traditional theorists assumed that the monopolist would be able to generate monopoly profits from the secondary market and add them to the monopoly profits generated in the primary market. The assumption has such intuitive appeal that theorists did not discuss it. Surely, two monopolies generate more monopoly returns than one.

If a monopolist could reap monopoly profits from both markets, the two monopolies together would create more economic damage than the original monopoly alone. In other words, we know that monopoly pricing in one market creates a dead weight loss for society. Monopoly pricing in two markets, therefore, would create an even greater loss. Thus, if the assumptions of traditional leverage theory were accurate, leveraging into a second monopoly would create a greater dead weight loss than the loss from the original monopoly alone.

In sum, according to traditional leverage theory, a monopolist leverages to increase overall returns by adding monopoly returns from a second market to the monopoly returns from the first. This increase in monopoly returns damages

reprinted in 2 THE LEGISLATIVE HISTORY OF THE FEDERAL ANTITRUST LAWS AND RELATED STATUTES, pt. I, at 1094 (Earl W. Kintner ed., 1978); see also 9 AREEDA, *supra* note 7, ¶ 1700d, at 6 (noting that the House Report forcefully expressed fear of the power to leverage into a second market).

22. This assumes that the monopolist can control enough of the sales in the film market to eliminate competition.

23. See *Northern Pac. Ry. Co. v. United States*, 356 U.S. 1, 6 (1958).

24. See, e.g., *Fortner Enters. v. United States*, 394 U.S. 495, 512-13 (1969) (White, J., dissenting on other grounds).

25. Commentators disagree, however, about whether the need to enter two markets deters entry. See Kaplow, *supra* note 14, at 537-39 (describing both sides of the debate and arguing that integration does raise barriers).

competition and creates a greater dead weight loss for society than a single monopoly.

B. THE CHICAGO RESPONSE

Traditional leverage theory lost ground with the emergence of the Chicago school of antitrust and its focus on price theory to analyze behavior.²⁶ Chicago school scholars sharply criticized leverage theory. They acknowledged that leveraging changes the secondary market from a competitive one to a monopoly.²⁷ They argued, however, that the interaction of pricing in the two markets prevents the monopolist from charging monopoly prices in both. By definition, the two products are used together. Thus, increasing the price of one will restrict the monopolist's ability to raise the price of the other. As a result, the monopolist can gain all of its monopoly profit in one market, or all of its monopoly profit in the other, but it cannot increase the total amount of monopoly profit available. A second monopoly obtained through leverage, therefore, generates no more monopoly profits than the original monopoly alone.

Following the teachings of Professor Aaron Director,²⁸ the Chicago school offered a simple proof to show that leverage cannot generate additional monopoly profits. For example, assume that the marginal cost to produce a roll of film is \$1. In a perfectly competitive market, consumers would pay \$1 for each roll of film.²⁹ Assume further that a photographer is willing to pay \$10 for the costs involved in shooting each roll of film. The \$10 must include both the film cost and the cost of using the camera. If a firm is in the camera market only and has a monopoly, it can extract a maximum of \$9 of "camera cost" for each roll of film the photographer shoots. In other words, if the photographer is willing to pay a maximum of \$10 for camera and film, and film costs \$1, the camera can cost up to \$9.

The simplest approach for the camera monopolist would be to rent out the camera for \$9 per each roll of film shot and allow the photographer to buy film for \$1 a roll on the open market. The photographer would pay a total of \$10 per roll of pictures, the maximum he is willing to pay.

Alternatively, the camera monopolist can leverage into the film market and raise the price of film. Assume, for example, that the monopolist raises the price of film to \$8 a roll. The photographer, however, is only willing to pay a total of \$10 in cost for the camera plus the film. If the monopolist charges \$8 for film, it

26. See generally Michael S. Jacobs, *The New Sophistication in Antitrust*, 79 MINN. L. REV. 1, 36-37 (1994) ("Chicagoans contended specifically that price theory explained diverse markets better than industry case studies that, although rich in factual detail, were poorly founded in economic theory.").

27. See, e.g., Whinston, *supra* note 7, at 837 (conceding that tying can lead to a monopolization of the tied good market).

28. See Kaplow, *supra* note 14, at 518 n.12; Whinston, *supra* note 7, at 837.

29. In a perfectly competitive market, which is a rare beast, firms will price at marginal cost. 3A PHILIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* 761, at 54 (1996). See generally PAUL A. SAMUELSON & WILLIAM D. NORDHANS, *ECONOMICS* 475-79 (12th ed. 1985) (describing price and supply behavior in a perfectly competitive market).

must reduce the price of renting out the camera to \$2 (the \$10 maximum total cost the photographer will pay less the \$8 cost of the film). By raising the price of film from \$1 a roll to \$8 a roll, the monopolist gains \$7 a roll in increased film profits. The monopolist loses \$7 a roll, however, in camera rental charges (the original \$9 rental price less the new \$2 rental price). The \$7 loss cancels out the \$7 gain. Thus, the monopolist has gained nothing from raising film prices above the competitive rate.³⁰

The "one monopoly profit theory" has been widely accepted among academics.³¹ In the words of a leading Chicago theorist, the traditional leverage assumptions have been discredited and, in the tying context, "thoroughly and repeatedly demolished in the legal and economic literature."³² According to the Chicago analysis, a monopolist simply cannot reap additional monopoly profits by leveraging into a second market.

If the monopolist cannot earn additional monopoly profit, why do monopolists engage in leveraging? The Chicago school offers a handful of possible motives.³³ Some of the explanations involve removing impediments to full exploitation of the original monopoly. For example, Chicago theorists suggest that a monopolist may use leverage to engage in price discrimination. This would allow the monopolist, in effect, to charge different prices to different users in an effort to extract the maximum profit from each.³⁴ Without price discrimination, a monopolist might be unable to extract the full amount of monopoly profit available in the primary market. Price discrimination would yield the full amount of monopoly profit. It would not, however, allow the monopolist to expand its profit beyond that which would be available from full exploitation of the original monopoly.

Not all of the Chicago explanations are socially desirable. For example,

30. See RICHARD A. POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* 173 (1976) (detailing a similar hypothetical); see also ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 140 (1978) (describing traditional leverage theory as "the fallacy of double counting"); Aaron Director & Edward H. Levi, *Law and the Future: Trade Regulation*, 51 NW. U. L. REV. 281 (1956); Whinston, *supra* note 7, at 837 (discussing a variation of the proof applied to products that are not complements).

31. See, e.g., M. Sean Royall, *Editors' Note to Symposium: Post-Chicago Economics*, 63 ANTITRUST L.J. 445, 450 (1995).

32. BORK, *supra* note 30, at 372. One antitrust textbook, for example, provides the following discussion of traditional leverage theory: "According to this view, somehow the seller expands or levers his monopoly power from one market to another. This, of course, is not possible. A seller cannot get two monopoly profits from one monopoly." Whinston, *supra* note 7, at 838 n.3 (citing ROGER D. BLAIR & DAVID L. KASERMAN, *LAW AND ECONOMICS OF VERTICAL INTEGRATION AND CONTROL* (1983)). Similarly, the Hovenkamp antitrust hornbook notes that leveraging is not a plausible way to increase monopoly profits. See HERBERT HOVENKAMP, *FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE* 370 (1994). Hovenkamp notes further that the "theory that a monopoly seller can use a tie-in to enlarge monopoly profits has been condemned repeatedly by commentators for four decades." *Id.*

33. See, e.g., Whinston, *supra* note 7, at 837 (listing price discrimination, achieving economies of scale, protection of goodwill, risk sharing, and cheating on a cartel price as possible motives).

34. See Ward S. Bowman, Jr., *Tying Arrangements and the Leverage Problem*, 67 YALE L.J. 19, 23-24 (1957).

Professor Bowman describes how a monopolist can use leverage to evade government price regulations.³⁵ None of the explanations, however, would increase the amount of monopoly profit a monopolist could gain if it were able to engage in full exploitation of the original monopoly. Thus, despite distortions of the secondary market, leverage behavior would not increase society's overall losses.³⁶

Why does a monopolist engage in leveraging? According to the Chicago school, it cannot be for the purpose of expanding monopoly profits beyond those available in the primary market. Thus, it must be for pro-competitive or neutral reasons.³⁷

C. POST-CHICAGO THEORIES

In the last decade, post-Chicago scholars have challenged the broad generalizations of the Chicago school.³⁸ Using game theory, post-Chicago theorists show how small and medium-sized firms can take advantage of market imperfections to harm rivals.³⁹ In the classic article *Raising Rivals' Costs*, Professors Krattenmaker and Salop argue that in carefully defined circumstances, certain firms can attain monopoly power by using strategic behavior to place their competitors at a disadvantage.⁴⁰

Post-Chicago theories require intricate fact finding and do not lead to broad generalizations.⁴¹ In the leverage area, for example, Ordover describes special circumstances in which a monopolist can use tying to obtain additional monopoly profit when the monopolist is blocked from fully exploiting the original monopoly by rivals that produce inferior substitutes.⁴²

35. See *id.* at 21-23.

36. Although traditional leverage theory has been fully discredited in the academic literature, Congress has not responded. The persistence may reflect nagging doubts about the Chicago school's interpretation of leverage. Despite the simplicity and appeal of the Chicago analysis, legislators may be unable to shake the intuition that expanding to create additional monopolies is harmful.

37. See UNITED STATES DEPARTMENT OF JUSTICE VERTICAL RESTRAINTS GUIDELINES (1985), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,103, at 20,564 (1985) ("Tying arrangements often serve procompetitive or competitively neutral purposes. . . [They] generally do not have a significant anticompetitive potential."); Whinston, *supra* note 7, at 838 (describing such tying explanations as "socially beneficial or at worst ambiguous"). The 1985 VERTICAL RESTRAINTS GUIDELINES were repealed in 1993. Michael H. Riordan & Steven C. Salop, *Evaluating Vertical Mergers: A Post-Chicago Approach*, 63 ANTITRUST L.J. 513, 514 (1995).

38. See Jacobs, *supra* note 26, at 36 n.151 (describing the leading post-Chicago articles).

39. See *id.* at 34.

40. See Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L.J. 209, 214 (1986).

41. See *Post Chicago Analysis After Kodak: Interview with Professor Steven C. Salop*, 7 ANTITRUST 20 (Fall/Winter 1992) [hereinafter *Salop Interview*]; Royall, *supra* note 31, at 446 ("post-Chicagoans tend to use economic theory to highlight uncertainties and thus to justify keeping the doors open to further factual investigation."). For example, Professor Hovenkamp describes how a monopolist can use a price squeeze and the reality of a smaller vertical rivals' sunk costs "to effectively transfer to itself the smaller firm's return on the fixed-cost part of its investment." Herbert Hovenkamp, *Antitrust Policy After Chicago*, 84 MICH. L. REV. 213, 269 (1985).

42. See Janusz A. Ordover et al., *NonPrice Anticompetitive Behavior by Dominant Firms Toward the*

Courts have been slow to embrace post-Chicago theories because of the detailed, fact-specific inquiries required.⁴³ In fact, some scholars argue that the issues raised in post-Chicago analysis are too complex for antitrust litigation.⁴⁴ Others, however, believe that antitrust law is moving in the direction of complex, fact-specific inquiries.⁴⁵ The main impact of post-Chicago theories, however, has been to show that the Chicago school's generalizations sweep too broadly. One can describe a variety of individual, precise scenarios in which Chicago theories do not hold.

II. DEFENSIVE LEVERAGING: THE NEXT STEP IN LEVERAGE THEORY

Defensive leveraging builds on the analysis of both traditional leverage theorists and the Chicago school. It focuses on two market characteristics: (1) pricing; and (2) market structure, that is, the number of current competitors in a market and the potential for future competition.

Traditional leverage theory considers both pricing and structure, but only in the secondary market. In analyzing structure, traditional theory notes that leveraging changes the secondary market from a market with many competitors to a market with only one. In analyzing pricing, traditional theory assumes that the remaining firm will be able to reap monopoly profits in the secondary market. All focus, however, remains on the secondary market.

The Chicago school moves one step further. In analyzing pricing, the Chicago school considers the effect in the primary and secondary markets combined. On the issue of structure, however, the Chicago school still examines only the secondary market.

Defensive leveraging theory fills in the next piece of the puzzle. It examines the effect of leverage on pricing and structure in both markets. It shows that one cannot appreciate the full impact of leveraging without analyzing the structural changes in the two markets combined.

Producers of Complementary Products, Discussion Paper in Economics #67, Woodrow Wilson School of Public and International Affairs 8-9, 10-11 (1984). Ordover shows that the monopolist can reach its goals by tying the original product to a second, complementary product and driving competitors out of the second market. The monopolist can then raise prices in the second market and reap the extra monopoly profit from the second market. In the alternative, Ordover suggests that the monopolist can reengineer the primary product to make it incompatible with the existing version of the second product. The monopolist can price the new system low enough to divert all sales from rivals. Thereafter, if the costs of reverse-engineering the system present a sufficiently high reentry barrier, the monopolist can raise the price of the new system to reap the full extent of monopoly profits. *See id.* at 12.

43. See Willard K. Tom, *Application of Game Theory to Antitrust: Game Theory in the Everyday Life of the Antitrust Practitioner*, 5 GEO. MASON L. REV. 457, 458 (1997) (citing Dennis A. Yao & Susan S. DeSanti, *Game Theory and the Legal Analysis of Tacit Conclusion*, 38 ANTITRUST BULL. 113 (1993)) ("Game Theory has thus far had little direct impact in providing formal models that decide specific cases or classes of cases.").

44. See Hovenkamp, *supra* note 41, at 261 (describing the controversy over whether antitrust litigation can effectively deal with the complex issues of strategic behavior); Jacobs, *supra* note 26, at 38 & n.169.

45. See Jacobs, *supra* note 26, at 34 (noting that antitrust in general is moving toward a jurisprudence of hypercomplexity).

The following section describes how leveraging helps a monopolist extend the life of its primary monopoly. This is the key to leverage behavior. Leveraging frequently is not an attempt to reap additional monopoly profit from a second market. Rather, it is an attempt to use the combined power of multiple monopolies to prevent the natural erosion of the primary monopoly.

A. THE LIFE CYCLE OF A MONOPOLY: A COMPLEX VIEW

To understand defensive leveraging, one must analyze the life cycle of a monopoly. Modern legal analysts tend to apply a simplified view of the life cycle of a monopoly. Most simply note that, in the absence of serious market imperfections, monopoly profits in a market will lure other firms that will enter the market and restore competition.⁴⁶ The analysis implies that new entrants compete head to head with the monopolist. Faced with direct competition in precisely the same market, the monopolist would have no choice but to lower prices.⁴⁷

There are many reasons why competitors may choose not to meet the monopolist head on, however, but to enter at a different market point.⁴⁸ These include lowering the cost of entry, avoiding customer loyalty, breaking network effects, and skirting legal barriers.

1. Lowering the Cost of Entry

Entry into a new market requires a capital commitment. If the venture fails, the firm will be unable to recover all of these costs, even after selling all of its assets. The nonrecoverable costs are referred to as sunk costs.⁴⁹

A firm may be able to limit sunk costs, however, by entering a smaller portion of the market, either a smaller geographic section or a more limited product. For example, a firm may limit sunk costs in the area of research by developing a product with only a few features rather than a product with many. In addition,

46. For example, Hovenkamp summarizes the Chicago School's basic assumptions about monopoly in the following manner: "Monopoly, when it exists, tends to be self-correcting; that is, the monopolists's higher profits generally attract new entry into the monopolists's market, with the result that the monopolist's position is quickly eroded. About the best that the judicial process can do is hasten the correction process." Hovenkamp, *supra* note 41, at 227; see also Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1, 2-3 (1984) (arguing that monopoly is self-destructive because monopoly prices eventually attract entry).

47. But see *supra* notes 38-40 and accompanying text (discussing post-Chicago view that firms may use strategic behavior to raise rivals' costs and reduce competition).

48. Cf. Thomas J. Campbell, *Predation and Competition in Antitrust: The Case of Nonfungible Goods*, 87 COLUM. L. REV. 1625, 1641 (1987). Campbell argues that, even assuming there are no entry barriers, new entrants will choose to enter at some distance on the product differentiation line from existing firms because: (1) exact entry is impossible; and (2) entry at an existing point means sharing profits with the firm already located there whereas entry in unexplored areas offers the possibility of supracompetitive rates of return in the entrant's own exclusive interval. See *id.*; see also Robert Pitofsky, *Antitrust in the Next 100 Years*, 75 CAL. L. REV. 817, 825-26 (1987) (criticizing Chicago school for failing to adequately recognize market power based on product differentiation).

49. See Hovenkamp, *supra* note 41, at 265 (describing sunk costs as those costs that the exiting firm will be unable to recover after selling everything, including goodwill).

presenting a low-end or generic brand may involve fewer sunk costs in advertising. In short, a firm may be able to limit sunk costs and ease entry by entering a smaller portion of the market.⁵⁰ Similarly, a larger venture may require a longer start-up time than a smaller venture. By choosing a narrower market, the new entrant may accelerate its rate of entry.

2. Avoiding Customer Loyalty

A new firm entering the market must overcome the name recognition and customer loyalty cultivated by the existing firm. Consumers frequently prefer to buy brands that are familiar. For example, buying a known product saves the costs and risks associated with evaluating a new product. If consumers know they like the fit of a particular shoe, they can save time in the future by buying the same shoe rather than trying on numerous pairs in search of an equivalent fit. In addition, consumers who are familiar with the quality of a product can avoid the risks of misjudging new products by continuing to buy the familiar brand.

If a new entrant tries to meet a monopolist head on, it may run into established customer loyalty. The new entrant may lessen this inertia by offering something different, such as a subproduct, a bargain brand, or the next generation in product development.

3. Breaking Network Effects

In some markets, there is an advantage in doing what others already do.⁵¹ This is called a network effect.⁵² For example, consumers who choose the popular brand will find it easier to buy complementary products. Those who own Betamax machines today are unlikely to find many tapes to buy or rent while those who own VHS machines have no such difficulties. In addition, if a consumer needs to communicate with other systems, choosing the popular brand may ease compatibility.⁵³ Finally, consumers switching to a new product

50. Although limiting sunk costs may make it easier to enter a new market, limiting overall costs will not necessarily ease entry. In theory, when capital flows freely, a new entrant should have no more difficulty raising capital for a large venture than for a small one. See generally Kaplow, *supra* note 14, at 537-39 (describing the debate over whether the need to enter two markets simultaneously deters entry). The amount of sunk costs, however, is different. If all other risk factors are equal but one investment entails greater sunk costs, this investment will be less attractive to lenders and more difficult for entrants to arrange. See Hovenkamp, *supra* note 41, at 265-66 (noting that the cost of exit operates as a barrier to entry; where capital flows freely, the fact that it costs \$10 million to enter is not as important as the fact that only 10% can be recovered if the investment proves unprofitable).

51. See Joseph Farrell & Garth Saloner, *Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation*, 76 AM. ECON. REV. 940, 940 (1986).

52. See Daniel L. Rubinfeld, Competition, Innovation, and Antitrust Enforcement in Dynamic Network Industries, Address before the Software Publishers' Association (Mar. 24, 1998), <http://www.usdoj.gov/atr/public/speeches/1611.htm> [hereinafter Rubinfeld Speech] (noting that network industries are created by network effects "whereby each individual's demand for a product is positively related to the usage of other individuals").

53. See Farrell & Saloner, *supra* note 51, at 940.

may have to invest in learning new skills. Employers can limit training costs by buying products that employees already know how to use. With network effects, even when new technology is better, it is less attractive because it has fewer users.⁵⁴

Where network effects exist and one firm has established the industry standard, it is difficult for new firms to enter. Rather than challenging the standard bearer head on, a new entrant may try to leapfrog into the next generation of product development. In other words, rather than trying to fight today's standard, a new entrant may try to establish the standard for tomorrow.⁵⁵

4. Skirting Legal Barriers

In some cases, a new entrant may be unable to challenge the established monopolist because of legal restrictions. For example, a monopolist may hold intellectual property rights that prevent a new entrant from challenging it head on.⁵⁶ A crafty entrant, however, may be able to carve out portions of the monopolist's market that are not protected by legal barriers.

B. SPLINTERING AND NEXT-GENERATION SUBSTITUTION: THREATS TO THE PRIMARY MONOPOLY

As described above, an entrant may be reluctant to compete head on against a monopolist. Rather, an entrant may choose to attack a portion of the monopolized market, either a smaller geographic section, a generic or lower-end version, or a more limited product that performs part of the functions of the monopolist's product or meets more limited market needs. This approach can be described as splintering.

Mere splintering of the market may not immediately harm a monopolist's profits. A Chicago school scholar would point out that the monopolist still may be able to extract the full amount of monopoly profit from the portion of the market it continues to monopolize.⁵⁷ For example, suppose a new entrant splinters the market by creating a limited complimentary product.⁵⁸ The monopolist controls most of the original market but must compete with the new entrant in the market for the second product. For example, consider a variant on the camera and film hypothetical described in the introduction. A monopolist controls the market for cameras used by professional photographers. Assume

54. *See id.* at 942.

55. The effects of network externalities may be so dangerous to competition and so different from standard market interactions that they require development of particularized antitrust rules. A full exploration of the topic is beyond the scope of this work.

56. *See* SAMUELSON & NORDHANS, *supra* note 29, at 507-08 (describing how government can create entry barriers by granting monopoly rights through patents or by regulating industries such as gas and electricity).

57. *Cf. supra* notes 26-30 and accompanying text (describing Chicago school theory that in the case of complimentary products, a monopolist can gain all of its monopoly profit from one of the products or from both of the products combined).

58. The new market is the secondary market.

that most professional photo shoots occur over a period of days. During this time, a photographer uses the camera initially for test shots that can give the photographer a feel for the layout and the lighting of a particular shoot. The photographer will use the same camera for the final shots.

Suppose a new entrant offers a test shot camera. The test shot camera is of cheaper quality. Photographers could never use it for the final photos. Nevertheless, the test shot camera can produce a quick and inexpensive version of the photo shoot that is sufficient for testing purposes.

The test shot camera cuts into the monopolist's camera market. Photographers will buy less of the high-end camera product because the test shot camera satisfies some of their needs at a lower price.⁵⁹

The monopolist, of course, could offer its own test shot camera. If the monopolist's camera is vastly superior to the interloper's, the interloper's camera will disappear, forced out by the pressures of a superior product. The monopolist will again control the same spectrum of the market, but spread across two products. In a more likely scenario, however, the monopolist will have to compete against the new entrant in the test camera market. Thus, the monopolist's original market evolves into two markets: the market for final photograph cameras and the market for test photo cameras. The monopolist dominates the first but must compete in the second.

If the market for the second product is perfectly competitive, Chicago school theories would suggest that the monopolist can extract all of its monopoly profit from the primary portion of the market. None of the potential monopoly profit in the system is lost in the secondary product market. The full monopoly profit, therefore, can be extracted from the primary market.⁶⁰ The monopolist may not lose monopoly profits immediately when a new entrant splinters the market.

Splintering, however, threatens the monopolist's long-term prospects. Once a new entrant has established a foothold in one corner of the market, the entrant is in a better position to challenge the monopolist in the full range of the monopoly market.⁶¹ For example, the new entrant can establish a reputation in the limited market that carries over for entry into the broader market. Consumers who like the entrant's test camera will recognize and respond favorably to the brand name if the new entrant develops a final photograph camera. If the new entrant initially faced barriers because of brand loyalty to the monopolist, the entrant can circumvent this barrier by entering the market step by step.

In addition, reputation value can help the entrant obtain financing for a foray

59. Photographers will still need the high-end camera. They will replace the high-end camera less frequently, however, because they will use it less frequently. The test shot camera will be doing some of the work previously done by the high-end camera.

60. If the secondary market is not perfectly competitive, the monopolist can reduce price in the second market and ensure perfectly competitive pricing.

61. See Richard Craswell, *Tying Requirements in Competitive Markets: The Consumer Protection Issues*, 62 B.U. L. REV. 661, 670 (1982) (describing how a monopolist that eliminates independent producers of a tied product may raise barriers in the tying market by eliminating potential entrants).

into the broader market. Although lenders may be reluctant to help an unproven candidate, they may be more willing to assist a firm that has established itself in a related market.⁶²

Experience in a related market also helps the new entrant move into the broader market. Experience making one kind of camera, for example, will help the new entrant develop other kinds of cameras.⁶³ The entrant gains experience in a variety of areas including the technology of the product, consumer tastes, and product life cycles.⁶⁴

In short, splintering poses a significant threat to the long-term viability of a monopoly. Entrants in the splintered market are poised to become successful competitors in the broad market. Thus, although the monopolist may not lose monopoly profits immediately through splintering, splintering threatens the monopolist's long-term ability to maintain its market power.

Next-generation substitution poses an even more immediate threat. Recall that a new entrant may try to jump into the next generation of product development. Rather than offering another camera, for example, a new entrant could try to offer a new approach to image development. The entrant then presents its product as the next-generation substitution. As a direct substitute, the new product presents a direct and immediate challenge to a monopolist's market power.

C. HOW LEVERAGING PREVENTS SPLINTERING AND NEXT-GENERATION SUBSTITUTION

Leverage is an effective response to splintering and next-generation substitution. If an entrant tries to split off portions of the monopolized market, the monopolist can use leverage to tie the two markets back together. The monopolist extends the power from its core stronghold into the wayward portion of the market. It can thereby strangle the new competitor and maintain the full scope of its original monopoly.

In the test camera scenario described above, suppose the camera monopolist ties its two cameras together. Photographers can only buy the high-end camera if they agree to buy the monopolist's test shot camera. The monopolist could accomplish the same result by bundling the two cameras, that is, by offering the

62. See OLIVER E. WILLIAMSON, *MARKETS AND HIERARCHIES: ANALYSIS AND ANTITRUST IMPLICATIONS* 111-12 (1975) (describing why experience counts when trying to obtain financing).

63. See *id.* at 112 (concluding that learning by doing yields significant cost advantages).

64. Even legal barriers may be weakened somewhat by entering a corner of the market. Suppose the entrant cannot enter the broad market because of patent restrictions. When the patent expires, the entrant will be poised to expand into the broader market. The entrant's experience and reputation in a limited area of the market will allow it to enter the broad market faster and more effectively than if the entrant were starting from scratch. Experience in a limited area may even affect licensing barriers. If the new entrant can establish a positive reputation in a limited area, it may convince licensing authorities to ease restrictions and permit wider entry.

two cameras only as a package at one price.⁶⁵ If consumers get the monopolist's test shot camera along with the high-end camera, they will not purchase the entrant's test shot camera.⁶⁶ The new entrant will drop out of the market, and the monopolist's market power will be preserved.

One could imagine a similar scenario with the development of a generic version of a product. Suppose a new entrant splinters a manufacturing market by offering a generic brand of the manufactured good, such as cigarettes. From the consumer's standpoint, the generic version is not a complimentary product, but a substitute. The consumer would purchase either the high-end cigarettes or the generic brand. The monopolist could develop its own generic version. It could not, however, leverage by tying the two goods together if the consumer would use only one.

From a retailer's standpoint, however, the products are compliments. A retailer such as a convenience store may wish to carry both high-end cigarettes and a low-end brand. The monopolist could use its power in the high-end market to insist that retailers carry its version of the generic product and not the new entrant's. The monopolist thereby succeeds in driving the entrant out of the market and preserving its original monopoly.

In short, if a new entrant threatens to erode the monopoly by splitting off a limited portion of the market, the monopolist can respond by leveraging power from its stronghold into the limited portion of the market. The monopolist succeeds in driving out the new competitor, thereby protecting its monopoly. This is defensive leveraging: using the power of combined markets to prevent erosion of the original monopoly.

Depending on the strength of the monopoly and the effectiveness of the leverage, defensive leveraging may either substantially delay monopoly erosion or prevent it altogether. Even if defensive leveraging only delays erosion, the effect is significant for antitrust policy. In the words of Professor Areeda:

Antitrust's concern is not merely with market power that may be exercised indefinitely but also with market power that can be exercised for a substantial period of time. As a result, the distinction between [delayed entry and permanent exclusion] is generally irrelevant to antitrust policy, although the question of how long entry will be deterred is certainly relevant.⁶⁷

Defensive leveraging also can be used to prevent next-generation substitu-

65. See generally 10 AREEDA ET AL., *supra* note 13, ¶ 1755-1756, at 311-35 (detailing various uncommunicated tying arrangements including bundling).

66. Cf. Kurt A. Strasser, *Antitrust Policy in Agreements for Distributor Exclusivity*, 16 CONN. L. REV. 969, 982-83 (1984). Strasser argues that when inputs can be used in variable proportions, a monopolist supplier has an incentive to integrate forward to keep buyers from substituting other inputs for the one over which the monopolist has power. See *id.*

67. 2A PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 420c, at 60-61 (revised ed. 1995).

tion, particularly in industries that exhibit network externalities.⁶⁸ As described above, in some markets, consumers fare better if they own the same product as everyone else. A new entrant may try to avoid this barrier by producing the next generation of a product. In other words, if the name of the game is "who has the most customers," a new entrant will automatically lose in the current market. It can avoid the problem, however, by developing a new product market in which no one has any customers. In theory, the new market has a level playing field, and all entrants have the same chance of success.

Defensive leveraging can block this strategy. A monopolist can leverage the power of its existing customer base into the new market thereby dominating the new technology and crushing challengers. The monopolist is not trying to reap additional monopoly profit by projecting its power into the second market. It is trying to prevent extinction of its primary monopoly. Once a monopolist has blocked an attempt at next-generation substitution, the strategy has a deterrent effect.⁶⁹ Potential entrants are less likely to search for new technologies and enter the fray for fear that their efforts will be blocked. As a result, in the next-generation scenario, defensive leveraging damages competition in two ways:⁷⁰ First, it prevents the natural erosion of a monopoly; second, it inhibits innovation.⁷¹

For example, imagine a telephone system in which customers could only talk to people who subscribe to the same phone system. In this market, one firm has emerged as the overwhelming monopolist because the largest number of subscribers have joined its system. New customers are reluctant to choose another system, even a better one, because they would be unable to connect to many people. Suppose further that a new firm develops cellular phones. Users could travel anywhere with the new phones. In addition, cellular customers could talk to users on any other cellular system.

The new phones would threaten to erode the basic phone monopoly. Having a large customer base is not important in the cellular market because cellular callers can talk to callers from any other cellular system. If users like the

68. See *supra* text accompanying notes 52-55 (describing network effects).

69. Cf. Campbell, *supra* note 48, at 1653 (describing the deterrence value of predatory strategies).

70. Cf. Krattenmaker & Salop, *supra* note 40, at 246 (noting that potential competition provides a competitive check on established firms distinct from the check that established firms exert on each other; if exclusionary rights raise entry barriers, this will enhance established firms' power to raise prices).

71. Professor Rubinfeld makes the following comments about leveraging in the context of dynamic network industries:

One troubling aspect of leveraging is the possibility that innovation incentives of competitors will be decreased. Such a blunting of incentives can occur if the leveraging practice is undertaken not primarily as part of a vigorous competitive strategy, but in part to decrease the likelihood of competitor entry, so that the dominant firm will continue to be victorious in the competition for the next market.

Rubinfeld Speech, *supra* note 52, at 24; cf. Sullivan & Jones, *supra* note 7, at 175 (discussing how the prohibition on leveraging can protect innovation).

convenience of cellular phones, they conceivably could switch more and more calls to the cellular system, a market in which the monopolist has no advantage. Over time, the primary phone market, which the monopolist dominates, could become smaller and smaller, replaced by a market in which open competition prevails.

Defensive leveraging can block this strategy. When the cellular market is in its infancy, the monopolist could develop a cellular phone and bundle it with the basic phone. The monopolist could thereby ensure a large customer base in the new market. In addition, if enough customers receive cellular phones from the monopolist, the new entrant might be unable to generate enough sales to survive. Thus, the monopolist could enter the cellular market unchallenged.⁷² It has used leverage to transform its old monopoly into a new generation monopoly.⁷³

In the lifecycle of a monopoly, new entrants may choose to enter the market by splintering off a portion of the monopolist's market or jumping into the next generation of product development. A monopolist blocks these challenges through defensive leveraging: Using power in the primary market, the monopolist projects into the newly splintered or newly developed market and dominates both. This is the essence of defensive leveraging. It is not an attempt to reap additional monopoly profit from a second market. It is an effort to protect the primary monopoly from the natural forces of competition.

D. THREE EXAMPLES OF DEFENSIVE LEVERAGING IN MODERN MARKETS

The previous section described the theory of defensive leveraging. It demonstrated that a monopolist may engage in leveraging behavior, not to reap

72. A particularly aggressive monopolist could try a more dangerous strategy. Remember that the monopolist has a substantial advantage in the basic phone market because callers can only talk to other callers on the same system. This network effect helps to reinforce the monopoly in the basic phone market. The cellular market lacks this network effect. Thus, even if the monopolist succeeds in dominating the cellular market, it will have no network effects to reinforce its market position. The best scenario for the monopolist would be to dominate a next-generation market which is also characterized by network effects.

The monopolist could try to leverage into this best case scenario. For example, suppose that in the infancy of the cellular market, the monopolist bundles basic phones with cellular phones that can only speak to users of the same system. Given that most people subscribe to the monopolist's system, the monopolist could hope that its customers will see the open cellular system as unnecessary. If customers are unconvinced and begin purchasing the open cellular phones anyway, the monopolist can switch tactics and bundle open cellular phones. The strategy is quite risky. The monopolist must be able to choose the perfect moment when bundling limited phones has failed but the advantage of the monopolist's installed base is still strong enough to project into the new open cellular market.

73. The next-generation market does not have the same network effects as the old-generation monopoly because cellular phones on any system can connect to any other cellular system. Thus, the monopolist's power is not as well protected in the new market, unless the monopolist can develop other ways to deter competition. At the very least, however, the monopolist has avoided the extinction of its primary monopoly.

additional monopoly profit from a second market, but to prevent the natural erosion of the primary monopoly. The following section presents three examples of defensive leveraging in modern markets.

1. Microsoft's Behavior in the Operating System Market

Microsoft makes operating systems for the personal computer ("PC") market. An operating system manages the interaction between a personal computer's central processing unit ("CPU") and various pieces of hardware such as printers and monitors. It also manages the interaction between the CPU and software, such as word processing programs and spreadsheet programs.

The operating system market exhibits network effects.⁷⁴ Consumers want operating systems that can run many software programs. Thus, PC users tend to choose the operating system that has the greatest number, variety, and quality of software available for it.⁷⁵ Similarly, software developers prefer to write programs for operating systems that are used by many consumers. Developers are unlikely to write for fledgling systems because there are so few potential customers. Thus, new entrants into the operating system market would find it difficult to compete because buyers could not find much software for the new system.⁷⁶

Microsoft has a monopoly in the operating system market. The dominant type of PC in the United States is Intel-based. Microsoft's operating system, Windows, is used in over 80% of Intel-based computers.⁷⁷ In addition, 90% of new Intel-based PCs are shipped with Windows already installed.⁷⁸

a. Internet browsers. Internet browsers are software programs that allow PC users to interact with the world wide web. The browser can locate, access and

74. See Rubinfeld Speech, *supra* note 52, at 3; see generally *supra* text accompanying notes 51-55 (describing network effects in which each individual's demand for a product is positively related to the usage of other individuals).

75. See Rubinfeld Speech, *supra* note 52, at 3.

76. Cf. Farrell & Saloner, *supra* note 51, at 942 (explaining that early adopters of a new technology bear a disproportionate share of incompatibility costs). In addition, buyers would be reluctant to choose a new operating system because of the retraining required.

77. See Justice Dep't Complaint ¶ 2, United States v. Microsoft Corp. (D.D.C. May 18, 1998) [hereinafter Justice Dep't Complaint]; Jay Dratler, Jr., *Microsoft as an Antitrust Target: IBM in Software?*, 25 Sw. U. L. REV. 671, 674 n.14 (1996) (citing academic, press, and court documents to show that Microsoft dominates the operating systems market and that its market share is estimated at 80%); see also United States v. Microsoft Corp., 56 F.3d 1448, 1451 (D.C. Cir. 1995) ("Microsoft dominates the world market for operating systems software that runs on IBM-compatible personal computers."). But see Defendant Microsoft Corp.'s Memorandum in Opposition to Motion for a Preliminary Injunction at 20 (D.D.C. Aug. 10, 1998) (asserting that Microsoft's large market share does not constitute monopoly power).

78. See *Microsoft Corp.*, 56 F.3d at 1451. In 1998, Microsoft introduced a new version of Windows entitled Windows 98. The prior version is called Windows 95.

display information from the web. Browsers also can run programs located on the web, as long as the program is written for the browser. In 1996, Netscape Communications had an 80% market share in internet browsers.⁷⁹ In early 1996, Microsoft's browser share was less than 5%.⁸⁰

b. Leverage behavior. Microsoft has waged an aggressive campaign to increase its share of the internet browser market. Internal Microsoft documents, cited by the Justice Department, show that the company feared it could not compete in the browser market on the merits of its products. These documents repeatedly conclude that Microsoft must leverage its power in the operating system market to prevail in the browser market.⁸¹ For example, Microsoft's Christian Wildfeuer wrote: "[I]t seems clear that it will be very hard to increase browser market share on the merits of [the Microsoft browser] alone. It will be more important to leverage the [operating system] asset to make people use [the Microsoft browser] instead of Navigator."⁸²

Microsoft has indeed leveraged its power from the operating system market into the browser market. In order to obtain a license for Windows 95, Microsoft requires PC manufacturers to agree to license, preinstall, and distribute the Microsoft browser on every Windows PC shipped.⁸³ The same is true for Windows 98.⁸⁴ In other words, if PC manufacturers want Windows, they must also take Microsoft's browser. In addition, Microsoft has taken further steps to ensure that its browser remains the only browser on the Windows operating system. For example, Microsoft's contracts forbid PC manufacturers from removing Microsoft's browser or adding a competing browser. According to Microsoft's internal documents, customers have asked to remove the Microsoft browser, but Microsoft has refused.⁸⁵ Microsoft, furthermore, has designed Windows 98 so that removing the Microsoft browser is more difficult than it was with Windows 95.⁸⁶

Microsoft's foray into the browser market has been stunningly successful. Microsoft's share of the internet browser market has grown from less than 5% in early 1996 to approximately 50% in May of 1998.⁸⁷

79. See Dratler, *supra* note 77, at 735.

80. Justice Dep't Complaint, *supra* note 77, ¶ 64.

81. Microsoft employees refer to the Microsoft browser as "IE" or "IE 4," the Microsoft operating system as "O/S," and the Netscape browser as "Navigator" or "nav."

82. Justice Dep't Complaint, *supra* note 77, ¶ 114(a). Similarly, Microsoft's Senior Vice President James Allchin wrote that unless Microsoft were to "leverage Windows . . . I don't understand how IE is going to win." *Id.* ¶ 114(b). In the same vein, another Microsoft document notes that "if we take away IE from the O/S, most nav users will never switch to us." *Id.* ¶ 114(f).

83. See Justice Dep't Complaint, *supra* note 77, ¶ 10.

84. See *id.*

85. See *id.* ¶ 116.

86. See *id.*

87. See *id.* ¶ 126.

c. *Why is Microsoft leveraging into the browser market?*⁸⁸ It is clear that Microsoft is leveraging its power from the operating system market into the browser market in an effort to dominate both. Why is Microsoft engaging in this behavior? Is it to extract additional monopoly profit by dominating a second market? According to the Chicago school analysis, this is unlikely. Operating systems and browsers are complements in the computer market. Consumers use the two together as part of a package of computer products. Thus, if Microsoft monopolizes the browser market and tries to extract monopoly profit, presumably, it would earn less monopoly profit from its operating system. The stakes for Microsoft, however, are considerably higher than adding a little more monopoly profit. Browsers threaten to make the choice of operating system irrelevant, or at least much less important. Microsoft is battling to prevent the erosion of its core operating system monopoly.

Browsers create a layer between the operating system and the software program. Not only can operating systems run programs; browsers can run programs. Thus, if software programmers begin writing for browsers, the choice of operating system becomes irrelevant. A consumer could purchase an innovative operating system without worrying whether software will be available because the consumer could access software through the browser. Thus, the network effect of being the dominant operating system loses much of its power.

Internal Microsoft documents quoted in the Justice Department complaint show that Microsoft views the browser wars as an effort to protect its primary operating systems monopoly. For example, one Microsoft document notes that “[t]he Internet Battle” is “not about *browsers*. [Our] competitors are trying to create an alternative *platform* to Windows.”⁸⁹ Similarly, another Microsoft executive, lamenting Netscape’s intrusion into “Windows Paradise,” notes that “[t]he situation is threatening our operating systems and desktop applications share at a fundamental level.”⁹⁰ Thus, Microsoft is leveraging into browsers for one key reason: to prevent browsers from eroding Microsoft’s formidable monopoly in the operating systems market. This is classic defensive leveraging.

88. The Justice Department and the attorneys general of 19 states and the District of Columbia filed suit against Microsoft alleging that a variety of Microsoft’s actions violate the antitrust laws. See Justice Dep’t Complaint, *supra* note 77; Defendant Microsoft Corp.’s Memorandum in Opposition to Plaintiffs’ Motion for a Preliminary Injunction, *supra* note 77. I will discuss only one aspect of Microsoft’s behavior—Microsoft’s use of its power in the operating system market to control sales in the internet browser market—as an example of defensive leveraging.

89. Memorandum of the United States in Support of Motion for Preliminary Injunction at 21, *United States v. Microsoft Corp.* (D.D.C. May 18, 1998) <<http://www.usdoj.gov/atr/cases/11700/1762.htm>> (emphasis in original) (citing internal document written by Brad Silverberg of Microsoft).

90. *Id.* (quoting document written by Jeff Raikes, Microsoft’s Group Vice President for North American Sales); see also *id.* (quoting Microsoft document written by Brad Chase that warns of the potential danger that a competing internet browser could eventually “obsolete Windows”); *id.* (quoting memo by Microsoft Group Vice President for Platforms and Applications, Paul Maritz, explaining that job #1 at Microsoft is browser share and stating that Microsoft must “fundamentally blunt” the momentum supported by cross-platform browsers to “protect our core asset Windows—the thing we get paid \$’s for”).

A monopolist, faced with a next-generation product that threatens its monopoly, leverages the power from its primary market into the new market in order to protect its monopoly position.⁹¹

2. Competition Between Physicians and Nonphysicians

Competition between physicians and nonphysicians provides another current example of defensive leveraging at work. Physicians in this country traditionally faced little, if any, competition from outside groups. Although doctors competed among themselves, no other professionals had both the skills and the licensing necessary to offer similar services. Over time, however, various groups of health professionals have begun to compete directly with physicians in particular practice areas. Such nonphysician groups include nurse anesthetists,⁹² podiatrists,⁹³ chiropractors,⁹⁴ nurse midwives,⁹⁵ and psychologists. In order to compete effectively with physicians, nonphysicians need access to hospital and clinic facilities.

The general requirements for hospital privileges are issued by the Joint

91. Professors Farrell & Saloner describe similar behavior in the context of predatory pricing. Their hypothetical involves only one product market rather than leveraging between two products. See Farrell & Saloner, *supra* note 51, at 943 (describing how an incumbent monopolist, facing the threat of competitive entry by a new technology, can engage in temporary price reductions until the installed base is large enough to make entry by the new technology impossible).

One could argue that because Netscape had a large market share in browsers in 1996, Microsoft was merely leveraging to break Netscape's network effects. According to this argument, we should applaud Microsoft's behavior because it resulted in breaking another stronghold. Even assuming that Netscape had a browser monopoly in 1996, the argument would fail. The key goal in breaking network effects is to provide for free competition. Allowing one monopolist to replace another monopolist does not move us any closer to the goal of free competition. In addition, the analysis still assumes that the issue is domination of the secondary market. As Chicago school analysts have pointed out, Microsoft cannot gain more monopoly profits by dominating the secondary market. Microsoft is not trying to open up competition in the browser market. Microsoft is trying to preserve its operating system monopoly.

92. Nurse anesthetists are registered nurses with at least two years of additional training in administering anesthesia. See Note, *Denying Hospital Privileges to Non-Physicians: Does Quality of Care Justify a Potential Restraint of Trade?*, 19 IND. L. REV. 1219, 1226 (1986). Nurse anesthetists are licensed to perform some of the anesthesia services provided by physician anesthesiologists but are not trained or licensed to perform more complicated procedures. See *Bhan v. NME Hosps., Inc.*, 929 F.2d 1404, 1407 (9th Cir. 1991).

93. Podiatrists treat diseases of the foot. Podiatrists receive four years of postgraduate training at schools of podiatry. See Edward E. Hollowell, *The Growing Legal Contest—Hospital Privileges for Podiatrists*, 23 ST. LOUIS U. L.J., 491, 492 n.8 (1979). In most states, podiatrists are licensed to prescribe drugs, administer local anesthesia, and perform minor surgery related to the foot but not to perform amputations. See *id.* at 492.

94. Chiropractors compete with orthopedists and other physicians in the treatment of musculoskeletal problems. See Thomas E. Kauper, *The Role of Quality of Health Care Considerations in Antitrust Analysis*, 51 LAW & CONTEMP. PROBS., Spring 1988, at 274, 320. A chiropractor's primary therapeutic tool is spinal manipulation. See *Wilk v. American Med. Ass'n*, 719 F.2d 207, 213 (7th Cir. 1983). Although such therapy generally does not require hospitalization, chiropractors use x-ray and hospital laboratory services.

95. Certified nurse midwives are registered nurses who receive additional training in pregnancy, birth, and postpartum care for normal pregnancies. See Note, *Hospital Privileges for Nurse-Midwives: An Examination Under Antitrust Law*, 33 AM. U. L. REV. 959, 960, 963 n.22 (1984). Nurse midwives work with a collaborating obstetrician, to whom they can refer patients if complications arise.

Committee on Accreditation of Hospitals (JCAH).⁹⁶ Until fifteen years ago, the JCAH required that accredited hospitals grant privileges only to physicians.⁹⁷ In 1983, however, the JCAH modified its standards, allowing hospitals the option of granting privileges to nonphysicians.⁹⁸ Despite the change, many hospitals have chosen to maintain a physician-only policy.

Within each hospital, physicians generally control decisions concerning hospital privileges. Physicians who have staff privileges at the hospital appoint a committee to make recommendations concerning privileges.⁹⁹ The hospital's governing board makes the final decision, but the board rarely departs from the medical staff's recommendations.¹⁰⁰ Thus, physicians control access to hospitals, and nonphysician competitors find it difficult to gain such access.

Nonphysician groups have advanced a variety of antitrust arguments in their efforts to gain access to hospitals.¹⁰¹ Most of the cases follow a common fact pattern: Nonphysician plaintiffs claim that individual physicians, or physician groups, have conspired among themselves and with hospitals to prevent the nonphysicians from gaining access to hospitals.¹⁰² In some cases, nonphysicians

96. See Clark C. Havighurst, *Doctors and Hospitals: An Antitrust Perspective on Traditional Relationships*, 1984 DUKE L.J. 1071, 1087.

97. See John J. Miles, *Antitrust, Hospital Staff Privilege Decisions and Hospital Joint Ventures*, 17 TOLEDO L. REV. 873, 886 (1986).

98. See Havighurst, *supra* note 96, at 1090 n.57. At the time of the change, the prior standard was the subject of an antitrust suit by clinical psychologists against the JCAH in Ohio. The prior standard also had been challenged in a suit by podiatrists. See *id.* (citing *Ohio v. JCAH*, No. C2791158 (S.D. Ohio, filed Dec. 14, 1979) (dismissed as moot) and *Levin v. JCAH*, 354 F.2d 515, 517 (D.C. Cir. 1965)).

99. See *Levin*, 354 F.2d at 517.

100. Philip C. Kissam et al., *Antitrust and Hospital Privileges: Testing the Conventional Wisdom*, 70 CAL. L. REV. 595, 608 (1982).

101. Some nonphysicians have brought constitutional claims, alleging that a hospital violated equal protection or due process rights by denying access to nonphysicians. Nonphysicians alleged state action based on the fact that the hospital was state-owned or that the state was involved in licensing and regulation of hospitals. Nonphysicians consistently have lost on such claims. See *Hayman v. City of Galveston*, 273 U.S. 414 (1927); *Shaw v. Hospital Auth. of Cobb*, 614 F.2d 946 (5th Cir. 1980), *cert. denied*, 449 U.S. 955 (1980); *Aasum v. Good Samaritan Hosp.*, 542 F.2d 792 (9th Cir. 1976); *Kaczanowski v. Medical Ctr. Hosp. of Vt.* 612 F. Supp. 688 (D. Vt. 1985); *Feldman v. Jackson Mem'l Hosp.*, 509 F. Supp. 815 (S.D. Fla. 1981), *aff'd*, 752 F.2d 647 (11th Cir. 1985), *cert. denied*, 472 U.S. 1029 (1985); see also Note, *Health Professionals' Access to Hospitals: A Retrospective and Prospective Analysis*, 34 VAND. L. REV. 1161, 1186 (1981).

102. The cases have met with only limited success in the courts. See *Oltz v. St. Peter's Community Hosp.*, 861 F.2d 1440 (9th Cir. 1988) (upholding jury verdict for nurse anesthetist on Sherman Act § 1 claim); *Cooper v. Forsyth County Hosp. Auth., Inc.*, 789 F.2d 278 (4th Cir. 1986), *cert. denied*, 479 U.S. 972 (1986) (affirming summary judgment against podiatrists on Sherman Act §§ 1 & 2 claims); *Levin v. Joint Comm. on Accreditation of Hosps.*, 354 F.2d 515 (D.C. Cir. 1965) (*per curiam*) (reversing summary judgment against podiatrists); *Anesthesia Advantage, Inc. v. Metz Group*, 759 F. Supp. 638 (D. Colo. 1991) (granting summary judgment against nurse anesthetists on Sherman Act § 1 claims); *Kaczanowski v. Medical Ctr. Hosp. of Vt.*, 612 F. Supp. at 688 (granting summary judgment against podiatrists on Sherman Act §§ 1 & 2 claims); *Feldman*, 571 F. Supp. at 1000 (S.D. Fla. 1983), *aff'd*, 752 F.2d 647 (11th Cir. 1985), *cert. denied*, 472 U.S. 1029 (1985) (directing verdict against podiatrists on Sherman Act §§ 1 & 2 claims); *Health Care Management Corp.*, 107 F.T.C. 285 (1986) (entering consent order to prevent restraints on podiatrists); see also *Wilk v. American Med. Ass'n*, 719 F.2d 207 (7th Cir. 1983) (ordering new trial after verdict against chiropractors who claimed professional

allege that physician groups that compete with nonphysicians agree to provide services for a hospital only if the hospital agrees not to grant privileges to nonphysician competitors. In other cases, nonphysicians allege that the staff physicians as a whole use their power to convince hospitals to exclude nonphysicians.¹⁰³

Defensive leveraging theory explains what is happening in this portion of the market for medical services. Although physicians traditionally have competed against each other, they have not engaged in intensive price competition. In the words of one scholar, of all the private professions, medicine has been the most successful in shielding its compensation from the "chill winds of competition."¹⁰⁴ As a result, physicians consistently are able to price their services at rates higher than a competitive market would allow.¹⁰⁵

Various characteristics of the medical services market contribute to a physician's ability to charge supracompetitive prices. First, because medicine is a technical field, consumers lack the information to make rational choices about the quality of services and the proper amount to purchase.¹⁰⁶ The average consumer will have difficulty evaluating, for example, whether to have heart surgery or simply to take heart medication.

Lack of information harms competition for medical services in several ways. Consumers are unlikely to encourage price competition because they are unable to evaluate the quality of the product and to weigh the tradeoffs between price and quality. In addition, consumers are dependent on the supplier, the physician, to determine the level of demand. Patients usually look to the physician to decide everything from the frequency of physicals to the need for surgery. As one scholar commented, "[w]e really don't know what to buy, and must trust the seller to tell us."¹⁰⁷ Controlling the demand for services contributes to a physician's ability to charge supracompetitive prices.

Consumers also face greater penalties for making improper purchasing choices in the market for medical services than in ordinary consumer markets. For

physicians' organizations conspired to eliminate chiropractic profession by refusing to engage in any professional research, education, or other dealings with chiropractors); North Carolina Orthopedic Ass'n, FTC Complaints & Orders 23, 436 [¶ 22,364] (Oct. 7, 1986) (entering order in which association agrees not to urge members to pursue changes of hospital bylaws to exclude podiatrists).

103. Physicians who do not compete directly with nonphysicians have an interest in maintaining the mystique that "only a doctor can do it." All physicians may be worried that groups of nonphysicians will arise to compete with elements of the services they provide. Cf. Note, *Denying Hospital Privileges to NonPhysicians*, *supra* note 92, at 1230 & nn.85-86 (noting that even if there are no competing physicians on staff, the importance of referrals and peer pressure could lead other doctors to conform to their colleagues' wishes).

104. DEREK BOK, *THE COST OF TALENT: HOW EXECUTIVES AND PROFESSIONALS ARE PAID AND HOW IT AFFECTS AMERICA* 119 (1993).

105. See *id.*; see also *infra* notes 109-11 and accompanying text.

106. See Jerry L. Mashaw & Theodore R. Marmor, *Conceptualizing, Estimating, and Reforming Fraud, Waste, and Abuse in Healthcare Spending*, 11 YALE J. ON REG. 455, 460 (1994); Justin B. Nelsen, *Delineation of the Proper Geographic Market in Antitrust Cases Involving Physician Services*, 16 J.L. & COM. 1, 28 (1996).

107. Mashaw & Marmor, *supra* note 106, at 460.

example, if a consumer purchases an inadequate laundry detergent, the consumer ends up with stained clothing. If a consumer purchases inadequate medical services, the consumer could die. This tends to encourage over-purchasing and price inelasticity in the medical field.¹⁰⁸

Finally, physicians are able to charge supracompetitive prices because consumers are insulated from the full price of the services they purchase. As Milton Friedman has commented, "few consumers of health care now pay for their care directly, and no one spends someone else's money—the employer's, the insurance company's, or the government's—as carefully as he or she spends his or her own."¹⁰⁹

Managed care complicates the pricing picture in the medical services industry. One would expect third-party payers such as insurance companies and Medicare to constrain physicians' ability to fully exploit their market power. Although third-party payers may have had an effect on physician compensation, they have not induced open price competition. American physicians continue to exhibit the power to charge prices above competitive rates. Despite the explosion of managed care, for example, physician earnings have not declined. In fact, they have continued to rise at a rate exceeding inflation.¹¹⁰ Scholars continue to conclude that physicians charge prices above competitive rates.¹¹¹

The key to physicians' continuing market power is licensing restrictions. "It is an article of faith in the economics professions, particularly the field of microeconomics, that licensure provisions decrease the supply of available physicians and increase their cost."¹¹² Restrictive licensing practices ensure that medical care will be undersupplied and the cost of medical care will be too high.¹¹³ By limiting the supply of providers, the medical profession induces supracompetitive prices.

Nonphysicians threaten to dampen the power of the licensing restrictions. Before the emergence of nonphysicians, consumers could purchase a single product, medical services. The product could be purchased from only one type of supplier—a doctor. Now, some medical services are divided into high-end and

108. Nelsen, *supra* note 106, at 27-28 (discussing price inelasticity in the medical field).

109. Milton Friedman, Letter to the Editor, *It Looks Like a Health Crisis to Us*, WALL ST. J., Feb 9, 1994, at A11; see also Mashaw & Marmor, *supra* note 106, at 460 (noting that less than one-quarter of healthcare payments are out of pocket); Nelsen, *supra* note 106, at 28 (concluding that most consumers are unaware of actual health care costs; a typical consumer is only aware of the monthly premium).

110. See Bok, *supra* note 104, at 120. The average American physician also earns more in comparison to other American workers than physicians do in other countries. American physicians earn 5.4 times the pay of a typical American worker compared with 4.3 in Germany, 3.8 in Canada and 2.5 in Great Britain. See *id.* at 121.

111. See *id.* at 121 (showing that by every plausible measure, most American physicians receive substantially more in earnings than a competitive market would allow); Nelsen, *supra* note 106, at 47 (citing empirical studies showing that supracompetitive pricing is the rule rather than the exception in most healthcare service markets).

112. Mashaw & Marmor, *supra* note 106, at 470.

113. See *id.*

low-end services. High-end services are sold only by physicians, but low-end services are sold by both physicians and nonphysicians.¹¹⁴ Thus, nonphysicians have succeeded in splintering the market for medical services. Although physicians still maintain sole licensing in large areas of medical services, nonphysicians, over time, may move to challenge more and more of the licensing restrictions.¹¹⁵

With the emergence of new competitors and the evolution of the product, doctors are in danger of losing their market power. The doctors' primary monopoly is eroding because of splintering resulting from competitors in a new, low-end market. The physician response is defensive leveraging. Physicians use the power from their core stronghold, high-end medical services, to exclude competitors from the newly splintered market. Physicians who compete with nonphysicians may insist on providing a full array of services as a package. In other words, if a hospital wants high-end services, it must agree to purchase low-end services from the physician as well. In the alternative, physicians who do not compete against nonphysicians may use their power to induce hospitals to exclude nonphysicians. If the behavior succeeds, physicians will maintain their power over price in the full range of medical services.

Physicians are not trying to increase monopoly profits by leveraging from high-end services into a second low-end market. Rather, they are using existing market power to defend a current market position threatened with erosion.¹¹⁶ This is defensive leveraging.

3. Eli Lilly's Behavior in the Market for Cephalosporins

Some firms offer discounts or rebates to customers who use more than one of

114. Nonphysicians charge less than physicians. See *Nurse Midwifery Assoc. v. Hibbett*, 549 F. Supp. 1185, 1188 (M.D. Tenn. 1982) (containing allegation that maternity costs in the relevant market would be higher without nurse midwives); *FTC, Attorney General Come to Rescue of California CRNA*, 85 AM. J. NURSING 601, 601, 608 (1985) (noting that nurse anesthetists charge less than anesthesiologists); Faith Tanney, *Hospital Privileges for Psychologists—A Legislative Model*, 38 AM. PSYCHOL. 1232, 1233 (1983) (noting that psychologists charge less than psychiatrists); Note, *Denying Hospital Privileges to Non-Physicians*, *supra* note 92, at 1246-47 & nn.197-200 (1986) (citing AMERICAN PODIATRIC MEDICAL ASSOCIATION, *FOOT CARE: A MAJOR PRODUCT LINE FOR TODAY'S COMPETITIVE HOSPITAL MARKETPLACE* 4 (1985)) (noting that podiatrists charge less than *orthopedists*).

115. In fact, another group of health professionals, osteopaths, currently competes with traditional medical doctors. Osteopaths are similar to the nonphysician groups in that their training is less expensive, they typically offer lower rates, and they are perceived by traditional medical doctors as nonscientific outsiders. See Erwin A. Blackstone, *The AMA and the Osteopaths: A Study of the Power of Organized Medicine*, 22 ANTITRUST BULL. 405, 407 (1977) (finding that the cost of training osteopaths is significantly lower than the cost of training medical doctors given the greater emphasis in osteopath training on general practice rather than research). Osteopaths, however, compete across a broad spectrum with physicians who practice general medicine. See *id.* Thus, another group of professionals already competes with certain physicians in the full range of their market.

116. Cf. Jonathan B. Baker, *Vertical Restraints Among Hospitals, Physicians and Health Insurers that Raise Rivals' Costs*, 14 AM. J.L. & MED. 147, 150 (1988) (applying post-Chicago game theory to describe how vertical restraints among hospitals, doctors, and health insurers may create market power by raising costs for existing and potential competitors).

the firm's products. These promotions have been called "package discounts,"¹¹⁷ "bundled discounts,"¹¹⁸ or "quantity discounts."¹¹⁹ Not all package discounts are dangerous to competition.¹²⁰ A firm, however, can design a package discount in a way that allows a monopolist to engage in defensive leveraging. I call this type of promotion a leveraged discount.

a. Leveraged discounts in the abstract. Consider a product market that was once dominated by a single firm. The market has splintered into three subproducts, A, B, and C. The monopolist produces all three subproducts and continues to hold a monopoly in products A and B. A new entrant, however, competes in the C market. The C market is an effective foothold for eventually challenging the monopolist in A and B as well.

Suppose the monopolist crafts a purchase incentive program. The program begins the way most volume discounts do—the more you purchase, the lower the price per unit. In order to receive the best price, however, the customer must accumulate its purchases across several of the monopolist's products. It is not enough to buy a sufficient volume of product A. The customer must also buy some amount of products B and C as well. Once the customer reaches a sufficient volume of A, B, and C, the price of each will fall.

The C market entrant could try to compete by matching the monopolist's incentives. The entrant, however, cannot just match the monopolist's lowest price for C. In order to compete effectively, the entrant would have to offer a large enough discount on C to cover the discounts that the customer is forgoing on A and B as a result of buying C elsewhere. In other words, the entrant must offer a C discount equal to the value of the monopolist's combined discounts on A, B and C. The burden of providing such a steep discount would drive the new entrant out of the C market.

The monopolist in this case is not trying to leverage into the C market to gain additional monopoly profits in C. The monopolist is trying to prevent the C entrant from establishing a sufficient foothold to challenge the full range of the monopolist's market in A, B and C.¹²¹

*b. Leveraged discounts in the case of SmithKline Corp. v. Eli Lilly & Co.*¹²²

Eli Lilly produced and distributed a class of antibiotic drugs known as

117. 10 AREEDA ET AL., *supra* note 13, ¶ 1758, at 341.

118. *Lepage's Inc. v. 3M*, No. 97-3983, 1997 U.S. Dist. LEXIS 18501 (E.D. Penn. Nov. 14, 1997).

119. 11 HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 1807c, at 118 (1998).

120. See 10 AREEDA ET AL., *supra* note 13, ¶ 1758, at 341; 11 HOVENKAMP, *supra* note 119, ¶ 1807c, at 119.

121. Remember that the monopolist does not necessarily lose the opportunity for monopoly profits when C market becomes competitive. The monopolist may be able to extract its full amount of monopoly profits from its remaining monopoly in markets A and B. See *supra* text accompanying notes 56-61 (describing splintering). The danger exists if the new entrant eventually challenges all of the markets, thereby eroding the full range of the monopoly.

122. 575 F.2d 1056 (3d Cir. 1978).

cephalosporins. Lilly supplied 90% of the cephalosporins used by nonprofit hospitals in the United States.¹²³

For nine years, Lilly's patents gave the firm a complete monopoly in the relevant market for cephalosporins.¹²⁴ Later, however, other firms introduced new varieties of cephalosporins that were not covered by Lilly's patents. In particular, SmithKline Corporation entered the market with two new versions of cephalosporins. SmithKline viewed these two drugs as the first in a series of specialty antibiotics that it intended to pursue.¹²⁵ In other words, SmithKline, the new entrant, developed a limited range of products as a first step in a broader assault. Within a year, SmithKline's two drugs accounted for 8.5% of the cephalosporin market, making SmithKline the most significant challenger to Lilly.¹²⁶

Lilly responded by introducing its own versions of the new cephalosporins. In addition, Lilly introduced a rebate plan similar to the one outlined above. In order to obtain the best price for each item under Lilly's plan, a hospital had to purchase minimum quantities of any three of Lilly's five cephalosporins.¹²⁷ The rebate was designed so that a hospital would have to purchase the Lilly product that competed with SmithKline's key product. In fact, Lilly's sales representatives were told to emphasize that the rebate was an inducement to buy Lilly over SmithKline.¹²⁸ Lilly gave charts to its sales representative showing that SmithKline would need to offer a 20% rebate to match the full value of Lilly's multiple rebates across all of its drugs.¹²⁹

The Lilly rebate is an example of defensive leveraging. Lilly faced a splintered market and a new entrant with the potential to challenge the full range of Lilly's monopoly. Lilly invented an ingenious program to use its power across both the old and new markets to protect its core monopoly. Lilly was not trying to expand monopoly profits by dominating the newly splintered submarket. Rather, Lilly was using the power of multiple monopolies to prevent erosion of its primary monopoly.

III. IMPLICATIONS FOR ANTITRUST LAW ARISING FROM DEFENSIVE LEVERAGING THEORY

Contrary to the Chicago School analysis, defensive leveraging theory shows

123. *See id.* at 1060; *SmithKline Corp. v. Eli Lilly & Co.*, 427 F. Supp. 1089, 1109 (E.D. Pa. 1976).

124. *See SmithKline*, 575 F.2d at 1059.

125. *See SmithKline*, 427 F. Supp. at 1102.

126. *See id.* at 1103.

127. *See id.* at 1105-06.

128. *See id.* at 1106.

129. *See id.* The District Court entered a permanent injunction against Lilly's marketing practices on the grounds that Lilly had engaged in willful maintenance of monopoly power in violation of § 2 of the Sherman Act. *See SmithKline*, 427 F. Supp. at 1129. The District Court found that Lilly had illegally linked its more powerful products to its unpatented products in order to maintain a monopoly in the full cephalosporin market. *See id.* The Third Circuit affirmed. *See SmithKline Corp. v. Eli Lilly & Co.*, 575 F.2d 1056 (3d Cir. 1978).

that when a monopolist uses power in one market to create additional monopolies in other markets, the behavior can damage competition. This is true because a monopolist may leverage, not to reap additional monopoly profit from a second market, but to prevent erosion of its primary monopoly. Such behavior blocks the natural forces that would otherwise erode the primary monopoly and restore competitive equilibrium. By impeding competitive forces and extending the life of the primary monopoly, leveraging damages competition.

The following section discusses the implications of defensive leveraging theory for antitrust law. The section first analyzes the current state of antitrust law as it applies to leveraging. As described below, the law in this area is in disarray; it is internally inconsistent as well as inconsistent with other areas of antitrust law. Worse yet, it is inconsistent with all theories of leverage, including traditional leverage theory, Chicago school doctrine, and post-Chicago analysis. Thus, current antitrust law regarding leverage follows neither established judicial doctrine nor any line of theoretical analysis.

In contrast, the following section uses defensive leveraging theory to construct a four-part test that is consistent with the underlying doctrine. The test could be applied to all cases involving defensive leveraging, regardless of whether the case is brought under § 1 of the Sherman Act,¹³⁰ § 2 of the Sherman Act,¹³¹ or § 3 of the Clayton Act.¹³² Thus, the test would unify the standards used to evaluate defensive leverage claims and create a framework for a rational and coherent approach to leverage law.

A. CURRENT ANTITRUST LAW

Leverage analysis arises most frequently in tying cases. As described above, tying is an arrangement by a party to sell one product only on condition that the buyer purchase another product, or at least agree not to purchase the second product from any other suppliers.¹³³ Tying behavior is analyzed most frequently under § 1 of the Sherman Act and occasionally under § 3 of the Clayton Act.¹³⁴

1. Section 1 of the Sherman Act

Section 1 of the Sherman Act prohibits “[e]very contract, combination . . . or

130. 15 U.S.C. § 1 (1994).

131. 15 U.S.C. § 2 (1994).

132. 15 U.S.C. § 14 (1994).

133. *See Northern Pac. Ry. Co. v. United States*, 356 U.S. 1, 5-6 (1958).

134. *See, e.g., Jefferson Parish Hosp. Dist. No. 2 et al. v. Hyde*, 466 U.S. 2 (1984) (applying Sherman Act § 1); *United States Steel Corp. v. Fortner Enters., Inc.*, 429 U.S. 610 (1977) (applying Sherman Act § 1); *Fortner Enters. v. United States Steel Corp.*, 394 U.S. 495 (1969) (applying Sherman Act § 1); *White Motor Co. v. United States*, 372 U.S. 253 (1963) (applying Sherman Act § 1); *United States v. Loew's Inc.*, 371 U.S. 38 (1962) (applying Sherman Act § 1); *Northern Pac. Ry. Co.*, 356 U.S. 1 (applying Sherman Act § 1); *Times-Picayune Publ'g Co. v. United States*, 345 U.S. 594 (1953) (applying Sherman Act § 1); *Standard Oil v. United States*, 337 U.S. 293 (1949) (applying Clayton Act § 3); *International Salt Co. v. United States*, 332 U.S. 392 (1947) (applying Sherman Act § 1 and Clayton Act § 3).

conspiracy, in restraint of trade.”¹³⁵ Almost every agreement relating to trade, however, restrains trade to some extent.¹³⁶ Thus, taken literally, the words of the Sherman Act could outlaw all business agreements and the entire body of contract law.¹³⁷ To avoid this draconian result, the Supreme Court has interpreted § 1 of the Sherman Act to prohibit only unreasonable restraints of trade.¹³⁸ Courts must then apply a “rule of reason” analysis to determine if a particular practice is an unreasonable restraint of trade.¹³⁹

The classic description of the rule of reason test appears in Justice Brandeis’s opinion in *Board of Trade v. United States*:¹⁴⁰

The true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition. To determine that question the court must ordinarily consider the facts peculiar to the business to which the restraint is applied; its conditions before and after the restraint was imposed; the nature of the restraint and its effect, actual or probable. The history of the restraint, the evil believed to exist, the reason for adopting the particular remedy, the purpose or end sought to be attained, are all relevant facts. This is not because a good intention will save an otherwise objectionable regulation or the reverse; but because knowledge of intent may help the court to interpret facts and to predict consequences.¹⁴¹

The rule of reason is the common standard to judge restraints of trade under the Sherman Act.¹⁴² It requires a detailed and laborious inquiry which is described by courts and commentators as complex and burdensome on litigants and the judicial system.¹⁴³ In order to avoid this burdensome inquiry, courts have

135. 15 U.S.C. § 1 (1994).

136. *See Board of Trade v. United States*, 246 U.S. 231, 238 (1918) [hereinafter *Chicago Bd. of Trade*].

137. *See National Soc’y of Prof’l Eng’rs v. United States*, 435 U.S. 679, 688 (1978).

138. *See, e.g., Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 49 (1977) (describing the traditional judicial gloss on the language of Sherman Act § 1).

139. *See, e.g., id.* at 49.

140. 246 U.S. 231 (1918).

141. *Id.* at 238; *see also Standard Oil Co. v. United States*, 221 U.S. 1, 58 (1910) (offering an early, classic formulation of the rule of reason test).

142. *See Pitofsky, supra* note 48, at 830 (noting that the rule of reason is the common standard); *see also GTE Sylvania Inc.*, 433 U.S. at 49 (noting that the rule of reason is the prevailing standard of analysis). The system can be summarized in the following manner: (1) The plaintiff has the initial burden of showing that the behavior restrains competition in a specific market. The plaintiff must delineate the relevant product and geographic markets. (2) If the plaintiff meets the initial burden, the burden shifts to the defendant to show that its behavior serves legitimate objectives. (3) If the defendant meets that burden, the plaintiff has an opportunity to show that the defendant could meet its objective using a less restrictive alternative. If the plaintiff makes that showing, the plaintiff wins. (4) If the matter is still unresolved, the court must weigh the harms and benefits of the restraint. The plaintiff has the burden at that stage to show that the restraint is unreasonable on balance. *See* 7 PHILIP E. AREEDA, ANTITRUST LAW ¶ 1502, at 371-72 (1986).

143. *See, e.g., GTE Sylvania Inc.*, 433 U.S. at 50 (describing rule of reason trials as complex and burdensome on litigants and the judicial system); *Northern Pac. Ry. Co. v. United States*, 356 U.S. 1, 5

developed a streamlined rule to handle certain types of trade conduct. Courts consider some conduct so anticompetitive in nature and effect that it is unnecessary to engage in an elaborate study of the behavior under the particular circumstances in the case.¹⁴⁴ These types of behavior are deemed to violate the antitrust laws "per se." As the Supreme Court noted in *Jefferson Parish*: "[t]he rationale for *per se* rules in part is to avoid a burdensome inquiry into actual market conditions in situations where the likelihood of anticompetitive conduct is so great as to render unjustified the costs of determining whether the particular case at bar involves anticompetitive conduct."¹⁴⁵

Per se rules are reserved for conduct that is pernicious and without redeeming value in all, or nearly all, manifestations.¹⁴⁶ Courts are reluctant to apply *per se* analysis to a behavior unless there is sufficient judicial experience to show that the conduct is almost always anticompetitive.¹⁴⁷

The *per se* rule applies to tying allegations raised under § 1 of the Sherman Act. As the Supreme Court noted in *Jefferson Parish*, "it is far too late in the history of our antitrust jurisprudence to question the proposition that certain tying arrangements pose an unacceptable risk of stifling competition and therefore are unreasonable 'per se.'" ¹⁴⁸

2. Section 3 of the Clayton Act

Courts also analyze tying behavior under § 3 of the Clayton Act. Section 3 of the Clayton Act affects transactions in which the purchaser agrees not to use goods from the seller's competitor. Sellers may not engage in such transactions

(1958) (noting that the rule of reason analysis requires an incredibly complicated and prolonged economic investigation into the entire history of the industry involved, as well as related industries); see also *Pitofsky*, *supra* note 48, at 830 & n.42 (citing *United States v. Trenton Potteries Co.*, 273 U.S. 392 (1927), in which the Court refused to apply the rule of reason because of the practical difficulties of the minute inquiry into economic organization required); cf. *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 34 (1984) (O'Connor, J., concurring) (comparing rule of reason to the peculiar form of *per se* rule applied in tying cases and describing both as requiring extensive and time-consuming economic analysis).

144. See *National Soc'y of Prof'l Eng'rs v. United States*, 435 U.S. 679, 692 (1978); *Northwest Wholesale Stationers, Inc. v. Pacific Stationary & Printing Co.*, 472 U.S. 284, 298 (1985).

145. *Jefferson Parish*, 466 U.S. at 15-16 n.25.

146. As described in *Northern Pacific Railway Co.*, "there are certain agreements or practices which because of their pernicious effect on competition and lack of any redeeming virtue are conclusively presumed to be unreasonable and therefore illegal without elaborate inquiry as to the precise harm they have caused or the business excuse for their use." 356 U.S. at 5.

147. See *Business Elecs. Corp. v. Sharp*, 485 U.S. 717, 723 (1988); *FTC v. Indiana Fed'n of Dentists*, 476 U.S. 447, 458-59 (1986) ("[w]e have been slow . . . to extend *per se* analysis to restraints imposed in the context of business relationships where the economic impact . . . is not immediately obvious"); *Arizona v. Maricopa County Med. Soc'y*, 457 U.S. 332, 344 (1982) (noting that *per se* rule will be applied once experience with a particular kind of restraint enables the court to predict with confidence that the rule of reason will condemn it); see also *GTE Sylvania Inc.*, 433 U.S. at 50 n.16 (finding that although cases that do not fit may arise, *per se* rule reflects judgment that such cases are not sufficiently common or important to justify the time and expense to identify them).

148. *Jefferson Parish*, 466 U.S. at 9.

when the effect of the agreement may be to substantially lessen competition.¹⁴⁹ The House Report on § 3 of the Clayton Act specifically condemns tying agreements, calling them “one of the greatest agencies and instrumentalities of monopoly ever devised by the brain of man.”¹⁵⁰

The language used in § 3 of the Clayton Act differs from the language of § 1 of the Sherman Act. While § 1 of the Sherman Act has been interpreted to forbid agreements that unreasonably restrain trade, § 3 of the Clayton Act forbids agreements not to purchase a competitor's goods if the effect is to substantially lessen competition. Despite the differing verbal formulations, courts generally apply the same standard of proof to tying cases regardless of whether a plaintiff claims a violation of § 1 of the Sherman Act or § 3 of the Clayton Act.¹⁵¹ Thus, tying claims brought under § 1 of the Sherman Act or § 3 of the Clayton Act are analyzed under the *per se* rule using a single standard of proof.¹⁵²

3. The *Per Se* Rule in Tying Cases Compared to Classic *Per Se* Analysis

The *per se* rule for tying claims is quite different from the *per se* rule applied to other types of behavior. The classic *per se* rule condemns a practice without proof of market power, effect on competition, or anticompetitive intent.¹⁵³ In contrast, to satisfy the *per se* rule in tying cases, a plaintiff must show that the seller has “appreciable economic power” in the tying product market and that the arrangement affects a substantial volume of commerce in the tied market.¹⁵⁴

149. Section 3 of the Clayton Act, as amended by the Robinson-Patman Act, provides:

It shall be unlawful for any person engaged in commerce, in the course of such commerce, to lease or make a sale or contract for sale of goods . . . on the condition, agreement, or understanding that the lessee or purchaser thereof shall not use or deal in the goods . . . of a competitor of competitors of the lessor or seller, where the effect of such lease, sale, or contract for sale or such condition, agreement, or understanding may be to substantially lessen competition

15 U.S.C. § 14 (1994).

150. H.R. REP. NO. 63-627, *pt. 1*, at 13 (1914); *see also* 9 AREEDA, *supra* note 7, ¶ 1700d, at 6 (noting that the House Report forcefully expressed fear of the power to leverage into a second market).

The Supreme Court has further linked § 1 of the Sherman Act and § 3 of the Clayton Act by relying on the legislative history of the Clayton Act to justify applying the *per se* standard to tying cases brought under the Sherman Act. *See Jefferson Parish*, 466 U.S. at 10-11.

151. *See* 9 AREEDA, *supra* note 7, ¶ 1719b, at 254, 257 (citing Federal Courts of Appeals cases); DAVID C. HJELMFELT, ANTITRUST AND REGULATED INDUSTRIES 51 (1985).

152. There are differences in the types of cases covered by the Sherman Act and the Clayton Act. Although the Sherman Act applies to both goods and services, the Clayton Act applies only to goods and only to transactions within the flow of commerce. *See* 2 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW, ¶ 303c (1995); HJELMFELT, *supra* note 151, at 51.

153. *See Jefferson Parish*, 466 U.S. at 33 (O'Connor, J., concurring) (noting that the usual logic of a *per se* rule condemns a restraint without proof of market power or anticompetitive effect); 9 AREEDA, *supra* note 7, ¶ 1720a, at 258; Robert H. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division*, 75 YALE L.J. 373, 384 (1966) (noting that a true *per se* rule disregards questions of market power and intent).

154. *See Fortner Enters., Inc. v. United States Steel Corp.*, 394 U.S. 495, 503 (1969).

In other words, courts require proof that the defendant has market power¹⁵⁵ and at least some proof that the behavior could have an anticompetitive effect.¹⁵⁶ The classic *per se* rule also condemns a practice without weighing possible justifications.¹⁵⁷ In contrast, courts generally allow defenses when applying the *per se* rule in tying cases.¹⁵⁸ In short, the *per se* rule for tying requires a far greater variety and quantity of proof than the *per se* rule applied in most other antitrust contexts.¹⁵⁹ In light of this problem, four Supreme Court Justices in *Jefferson Parish* recommended abandoning *per se* analysis in tying cases to bring the law of tie-ins into accord with other areas of antitrust law.¹⁶⁰

Not only is the *per se* rule for tying inconsistent with other *per se* rules, it is also internally inconsistent. The goal of a *per se* rule is to streamline the case and avoid an extensive judicial inquiry into economic details. In contrast, the *per se* rule for tying requires and even invites courts to enter into some degree of economic analysis. Courts must try to steer a course between these conflicting dictates, a difficult, if not impossible, mandate.¹⁶¹

Despite the concurring opinion in *Jefferson Parish*, the Supreme Court continues to examine tying claims under the old, idiosyncratic *per se* rule.¹⁶² Thus, the *per se* rule in tying cases remains internally inconsistent and inconsistent with the *per se* analysis applied to other types of behavior.

The *per se* standard applied in tying cases also is inconsistent with all theories of leverage. It follows neither traditional leverage theory, Chicago school doctrine, nor post-Chicago analysis. Traditional leverage theory, as expressed by some early Supreme Court cases and by Congress, concludes that "[t]ying arrangements serve hardly any purpose beyond the suppression of

155. Courts will infer power if the firm has a predominant market share in the tying product market. See *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 464 (1992).

156. See 9 AREEDA, *supra* note 7, ¶ 1720a, at 258.

157. See *id.*

158. See 10 AREEDA ET AL., *supra* note 13, ¶ 1760-5, at 353-415 (describing defenses that the court will entertain in a *per se* tying case).

159. Professor Salop summarizes the state of tying law in the following manner.

[T]he current *per se* rule against tying is quite different than the *per se* rule against price-fixing, in that it requires a showing of market power. *Kodak* recognized that the proper analysis of market definition and market power really amounted to an inquiry into potential anticompetitive effect. That is not market definition in a vacuum and it surely is not the *per se* rule of *International Salt*.

Salop Interview, *supra* note 41, at 22.

160. *Jefferson Parish*, 466 U.S. at 35 (O'Connor, J., concurring).

161. See *id.* at 34-35 (O'Connor, J., concurring) ("the *per se* label in the tying context has generated more confusion than coherent law because it appears to invite lower courts to omit the analysis of economic circumstances of the tie that has always been a necessary element of tying analysis"); cf. BORK, *supra* note 30, at 377 ("[m]uch of the Sherman Act's doctrinal chaos is attributable to judicial and scholarly fondness for impossibly broad statements of the *per se* rule").

162. See *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 462 (1992) (applying the idiosyncratic *per se* analysis in a post-*Jefferson Parish* tying case).

competition.”¹⁶³ If tying behavior truly is pernicious and without redeeming value in nearly all cases, the Court should apply the classic *per se* analysis. Once the plaintiff establishes the requisite tying behavior, the behavior should be condemned without requiring elaborate proof of market power or anticompetitive effects and without considering justifications. As described above, however, the *per se* rule in tying is quite different. Thus, the rule strays far from the standard suggested by traditional leverage theory.

The current *per se* rule for tying cases also is inconsistent with Chicago school theories. If the Chicago school is correct, tying cannot damage competition because a second monopoly obtained through tying generates no more monopoly profit than the original monopoly alone. Thus, in most cases, tying is not anticompetitive; it must be either pro-competitive or neutral. If tying is not predominantly anticompetitive, a tying claim should not be governed by any version of the *per se* rule. It should be subject to a rule of reason analysis, which would be sufficient to cover those few cases in which a firm imposes a tie that results in anticompetitive effects.¹⁶⁴ In fact, some scholars have suggested that the *per se* prohibition against tying should be eliminated in light of the Chicago school analysis.¹⁶⁵ Nevertheless, the *per se* rule for tying persists.¹⁶⁶

Finally, the *per se* rule in tying cases is inconsistent with post-Chicago theories. As described above,¹⁶⁷ post-Chicago theories have shown that in a few, carefully defined circumstances, firms can attain additional monopoly profit through leverage. Post-Chicago theories require detailed, fact-specific inquiries, an approach which does not fit easily with *per se* analysis. Thus, post-Chicago theories imply that tying cases should be handled under the intense scrutiny of the rule of reason, not under any *per se* formulation. The rule applied in tying

163. *Standard Oil Co. v. United States*, 337 U.S. 293, 305-06 (1949); *see also* H.R. REP. NO. 63-627, pt. 1, at 13 (1914) (condemning tying contracts).

164. POSNER, *supra* note 30, at 182.

165. *See id.* (“[t]he prohibition against tie-ins ought to be radically curtailed and in the absence of a general prohibition of systematic price discrimination eliminated”); Pitofsky, *supra* note 48, at 830 (predicting in 1987 that the *per se* rule in tie-in cases would soon disappear in light of Chicago-style economic analysis); *cf.* HOVENKAMP, *supra* note 32, at 285 (citing statements from Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451 (1992) and *Spectrum Sports v. McQuillan*, 506 U.S. 447 (1993) that, when read together, give reason for doubting the continued viability of the leverage theory).

Professor Areeda argued that tying should largely, although not entirely, disappear as a separate subject. He suggested that the focus should be on the severity of market foreclosure caused by a certain behavior, whether or not the foreclosure was brought about by power over a different product. *See* 9 AREEDA, *supra* note 7, ¶ 1701d, at 29.

166. Although Chicago school theories have failed to substantially alter judicial tying doctrine, they have affected executive branch behavior. During the 1980s, the height of the Chicago school's prominence, antitrust enforcement efforts declined in response to Chicago school doctrines. *See* Pitofsky, *supra* note 48, at 821 (noting, in 1987, a decline in antitrust enforcement in part because of the Chicago school's conclusion that a firm cannot export power from one market to another through leverage).

167. *See supra* notes 38-45 and accompanying text (describing post-Chicago theories).

cases, therefore, is inconsistent with post-Chicago theories as well as other leverage theories.

B. THE IMPLICATIONS OF DEFENSIVE LEVERAGING THEORY FOR TYING DOCTRINE

Whatever leverage theory one applies, it is clear that the current treatment of tying cases is inadequate. The current standard of proof applied in tying cases is internally inconsistent and inconsistent with other areas of antitrust law. In addition, tying law is inconsistent with all leverage theories. Defensive leveraging theory, however, can be used to construct a rational and coherent approach to tying law, at least for claims involving defensive leveraging.

Defensive leveraging theory shows that leverage behavior such as tying can be dangerous to competition in a variety of circumstances. In order to justify continued application of the *per se* rule, however, one would have to conclude that the vast majority of leverage cases are dangerous to competition.¹⁶⁸ Thus, one would have to show that most leveraging is either (1) defensive leveraging, which blocks competitive forces in the primary market; or (2) the type of leveraging identified occasionally by post-Chicago scholars that damages competition through additional monopoly profit from the secondary market. This would require an empirical analysis that is beyond the scope of this piece and beyond the current state of leverage theory. Thus, the current experience with leveraging cases is insufficient to justify continued use of a *per se* analysis.¹⁶⁹

Without *per se* analysis, courts would apply the rule of reason to examine tying cases brought under § 1 of the Sherman Act and § 3 of the Clayton Act. The current rule of reason, however, is as unsatisfactory for tying cases as *per se* analysis. Under a rule of reason analysis, the court looks at the harm that the practice causes to competition, any justifications for the behavior and any pro-competitive effects.¹⁷⁰ In practice, the rule of reason analysis is long and cumbersome, requiring detailed and complex economic analysis that is a burden to litigants and the judicial system.¹⁷¹ Common wisdom holds that a lawsuit will fail unless the plaintiff can avoid rule of reason analysis and obtain *per se* treatment.¹⁷² Thus, the rule of reason is an inadequate response to behavior that frequently poses a significant threat to competition.

168. See *supra* notes 145-46 and accompanying text.

169. See *supra* note 146 and accompanying text (noting that courts are reluctant to apply *per se* analysis without sufficient judicial experience to determine whether conduct is almost always anticompetitive).

170. 7 AREEDA, *supra* note 142, ¶ 1502, at 372; see also *Chicago Bd. of Trade*, *supra* note 136, at 238 (providing an early, essential formulation of the standard).

171. See *supra* notes 141-44 and accompanying text.

172. The Supreme Court also has expressed frustration that the rule of reason analysis, in addition to being lengthy and cumbersome, may be an exercise in futility. Courts may be ill-equipped to make the type of economic inquiry required by the rule of reason. The Court noted in *United States v. Topco Assocs.*: "[I]nability to weigh, in any meaningful sense, destruction of competition in one sector of the economy against promotion of competition in another sector is one important reason we have formulated *per se* rules." 405 U.S. 596, 609-10 (1972); see also *Northern Pac. Ry. Co. v. United States*, 356 U.S. 1, 5 (1958) (noting that the rule of reason inquiry is often wholly fruitless when undertaken).

A more rational approach would be a structured rule of reason analysis. This test should give plaintiffs a manageable burden to meet and a reasonable opportunity to prevail in legitimate cases while allowing sufficient opportunity for defendants to prove that the primary effect of the behavior is pro-competitive. Such an analysis would preserve the goal of determining whether a restraint of trade is unreasonable without inviting the wide-ranging and complex inquiry of current rule of reason cases. For defensive leveraging cases that involve tying, plaintiffs should be required to make the following four-part showing: (1) the defendant has market power in the tying product; (2) the defendant has engaged in tying;¹⁷³ (3) the behavior eliminates rivals in the second market; and (4) the elimination of rivals protects the original monopoly. Plaintiffs could satisfy the fourth part of the test by showing either that the second market presents a direct threat to the primary monopoly or that the second market is a way station likely to significantly ease entry into the primary market. Those defendants who wish to argue that their behavior is pro-competitive could present evidence at step four that the primary effect of eliminating rivals in the second market is procompetitive rather than protective of the original monopoly. The structured rule of reason outlined above would reach the core of allegations under a defensive leveraging claim: The defendant has leveraged its power from one market into another market to protect the original market from the natural forces of competition.

1. Section 2 of the Sherman Act: Monopoly Maintenance Claims

Section 2 of the Sherman Act forbids the act of monopolizing or attempting to monopolize trade or commerce.¹⁷⁴ In describing the act of monopolization, the Supreme Court has said the following: "The offense of monopoly . . . has two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident."¹⁷⁵

Thus, § 2 of the Sherman Act forbids the act of monopolization which is the willful acquisition or maintenance of a monopoly.¹⁷⁶ Plaintiffs have brought leveraging claims under § 2 of the Sherman Act, usually by claiming that a firm is using its market power in the tying market to attempt to monopolize the tied market.¹⁷⁷

173. Current requirements for determining whether two products exist and whether there is a tie between them would remain under the structured rule of reason.

174. "Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony . . ." 15 U.S.C. § 2 (1998).

175. *United States v. Grinnell*, 384 U.S. 563, 570-71 (1966).

176. Monopoly power under § 2 requires something greater than market power under § 1. *See Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 481 (1992).

177. *See Kaplow, supra* note 14, at 515, 517; *see, e.g., United States Steel Corp. v. Fortner Enters.*,

2. Defensive Leveraging as Monopoly Maintenance

The heart of defensive leveraging behavior is an attempt to protect the original monopoly from the forces of competition. In defensive leveraging, the natural forces of competition threaten to erode the monopolist's power in the primary market. The monopolist responds by leveraging into a new market in order to protect its original monopoly. This behavior fits the definition of monopoly maintenance: willful action to ward off competitive forces and preserve monopoly power.

Given the current confused state of Sherman Act § 1 doctrine, one could advocate analyzing all defensive leveraging cases, including those involving tying, under § 2 of the Sherman Act. This would avoid all of the inconsistencies of tying law while reaching the essence of defensive leveraging behavior and its threat to competition. Directing all tying cases that involve defensive leveraging to § 2 of the Sherman Act, however, would ignore extensive judicial doctrine applying § 1 of the Sherman Act to tying. For more than half a century, courts have analyzed tying cases under § 1 of the Sherman Act as well as under § 2. Worse yet, it would ignore the legislative history of § 3 of the Clayton Act which specifically condemns tying arrangements and which the Court has linked to Sherman Act § 1 analysis.¹⁷⁸ Thus, suggesting that defensive leveraging claims should arise only under § 2 of the Sherman Act would ignore substantial judicial and legislative precedent.¹⁷⁹

As a more appealing solution, one could continue to allow tying claims under § 1 of the Sherman Act and § 3 of the Clayton Act as well as § 2 of the Sherman Act. The goal, however, would be to harmonize and more precisely focus the proof required under each. Thus, the same essential analysis should apply in Sherman Act § 2 monopoly maintenance claims based on defensive leveraging as in claims brought under Sherman Act § 1 and Clayton Act § 3. As described above, the offense of monopolization under § 2 of the Sherman Act involves the possession of monopoly power and the willful acquisition or maintenance of that power.¹⁸⁰ In testing for willful maintenance of monopoly power through leverage, courts should apply the same four-part test described above. Although

Inc., 429 U.S. 610, 612 n.1 (1977) (alleging violation of Sherman Act § 2 as well as § 1); *Times-Picayune Publ'g Co. v. United States*, 345 U.S. 594 (1953) (same).

178. Cf. *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 32 (1984) (Brennan, J., concurring) (stating that Congress has been aware for some time that the Court applies per se analysis to tying claims under Sherman Act § 1).

179. Section 2 monopolization claims also require a much stronger showing of power in the primary market than the showing required under the current § 1 tying doctrine. First, § 2 requires a showing of monopoly power, a more difficult standard to meet than the market power requirement of § 1. See *Eastman Kodak*, 504 U.S. at 481. In addition, tying cases under § 1 currently are analyzed under the per se rule. The per se rule requires an even lower level of proof of market power than the ordinary requirement under § 1. Thus, moving from the lowered *market* power requirement under the per se test of § 1 to the heightened *monopoly* power requirement of § 2 would be a drastic change from current law.

180. *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966).

some differences will arise,¹⁸¹ the essential inquiry should remain the same. The four-part test also could be applied in the context of defensive leveraging claims brought under any other type of antitrust claim.¹⁸²

The four-part test would make antitrust law concerning defensive leveraging consistent with other areas of antitrust law and consistent with the underlying economic theory. In addition, creating a unified test ensures that each case will turn on the nature of the behavior and the magnitude of the threat rather than on verbal formulations or the ability to squeeze facts into a particular pigeon hole.

The unified approach echoes other limited attempts in antitrust law to harmonize standards when a single harm and a single behavior are at issue despite differing verbal formulations.¹⁸³ It may serve as a model for continued harmonization of broader areas of antitrust law.

CONCLUSION

The debate over leverage has focused on whether a monopolist can use leverage to gain additional monopoly profit from a second market. Traditional leverage theorists and the Chicago school have reached opposite conclusions. Both fail, however, to analyze the effect of leverage on the structure of the primary market. Thus, neither theory draws a complete picture of leveraging's potential harm to competition, and neither theory asks the right question.

Defensive leveraging theory completes the picture by showing that when a monopolist leverages into a new market, it may be an attempt to prevent erosion of the primary monopoly. In the natural lifecycle of a monopoly, new entrants are likely to erode a monopolist's power by splitting off segments of the market or developing next-generation substitutes. New entrants are likely to take these paths in order to lower the cost of entry, avoid customer loyalty, break network effects, and skirt legal barriers. The monopolist can block this entry by leveraging the power from its core stronghold into the newly created market. The monopolist thereby wards off competitive market forces and prevents the erosion of its original monopoly. Such behavior damages competition by blocking the market forces that, over time, would extinguish the monopoly.

Defensive leveraging theory confirms judicial and legislative instincts about the effects of leveraging behavior. When a monopolist uses its power in one market to expand into other markets and create additional monopolies, the behavior may damage competition.

181. For example, the test for monopoly power under § 2 differs from the test for market power under § 1. *See supra* note 176.

182. *See supra* note 14 and accompanying text (describing other types of claims involving leverage theories).

183. *See* 9 AREEDA, *supra* note 7, ¶ 1719b, at 254-57 (citing Federal Courts of Appeals cases to show that courts generally apply a single standard for tying violations under Sherman Act § 1 and Clayton Act § 3 despite the fact that the words of the two Acts differ); *see also* HJELMFELT, *supra* note 151, at 51.

